Virginia Tech Board of Visitors Meeting August 30-31, 2015

Presentations

Minutes

- A. Minutes: Executive Committee Meeting, August 5, 2015
- B. Resolution: Ratify Action of the August 5, 2015 Executive Committee Meeting:
- --Approval of the Capital Project for East Eggleston Renovation
- --Approval to Name the Virginia Tech Carilion (VTC) Court at Cassell Coliseum
- --Approval to Change the Name of Spring Road to "Beamer Way"
- --Approval of the 2015-2016 Faculty Salary Adjustments
- C. Minutes: Academic Affairs Committee
- D. Resolution: Ratification of Changes to the 2015-2016 Faculty Handbook
- E. Resolution: Approval of Revision of the Commission on Equal Opportunity and Diversity's Charge
- F. Minutes: Buildings and Grounds Committee
- G. Resolution: Approval of A & N Electric Cooperative Underground Utility Easement
- H. Resolution: Approval to Grant An Easement to Rappahannock Electric Service Cooperative
- I. Minutes: Finance and Audit Committee
- J. Resolution: Approval of Potential State Budget Initiatives for 2016-2018
- K. Resolution: Approval of the Year-to-Date Financial Performance Report (July 1, 2014-June 30, 2015)
- L. Resolution: Approval of Virginia College Building Authority 9(d) Financing
- M. Resolution: Approval of Virginia Tech 9(d) Debt Financing:
- --a. Master Resolution Dormitory and Dining Hall System Bonds
- --b. Series Resolution Series 2015A Dormitory and Dining Hall System Bonds
- --c. Master Resolution University Services System Bonds
- --d. Series Resolution Series 2015C University Services System Bonds
- --e. Master Resolution Utility System Bonds
- --f. Series Resolution Series 2015D Utility System Bonds
- --f. Master Resolution Athletic Facilities System Bonds
- --h. Series Resolution Series 2015B Athletic Facilities System Bonds
- --i. Bond Resolution Series 2015E (General Revenue Pledge Refunding Bonds)
- --j. Preliminary Official Statement
- --k. Continuing Disclosure Agreement
- -- I. Bond Purchase Agreement
- N. Resolution: Ratification of the 2016-2022 Capital Outlay Plan
- O. Resolution: Approval of Capital Project for Virginia Tech Bioinformatics Institute Data Center Expansion
- P. Minutes: Research Committee

- Q. Resolution: Approval for Exclusion of Certain Officers/Directors
- R. Resolution: Approval for Revision of University Policy 13010: Individual Conflicts of Interest and Commitment
- S. Minutes: Student Affairs and Athletics Committee
- T. Resolution: Approval of Policy Referring Students Exhibiting Suicidal Tendencies or Behavior to Cook Counseling Center
- U. Resolution: Honoring John C. Lee IV
- V. Resolution: Honoring Cordel L. Faulk
- W. Resolution: Approval to Revise the By-laws of the Virginia Tech Board of Visitors
- X. Report: Research and Development Disclosures
- Y. Resolution: Atlantic Coast Conference (ACC) Governing Board Annual Certification
- Z. Resolutions: Naming University Facilities (2)
- AA. Resolutions: Emeritus Requests (8)
- BB. Resolutions: Endowed Chairs, Professorships, or Fellowships (3)
- CC. Resolution: Faculty Research Leave (1)
- DD. Resolution: Approval of Exception to the Virginia Conflict of Interest Act (1)
- EE. Resolution: Ratification of Personnel Changes
- FF. Resolution: Approval for Distribution of NIKE Contract Revenue
- GG. Reports: Constituent Remarks









A rich history...

Washington Alexandria Architecture Center (WAAC)



The Occoquan Watershed

Monitoring Laboratory (OWML) In Manassas

Virginia Tech Research Center Opens in Arlington



NCR Welcomes Dr. Sands 2015



2011

1997



Northern Virginia Center (NVC) Opens in Falls Church

1980

1984





1972 1969

First Graduate Center In Reston Farmhouse

http://www.ncr.vt.edu/History/



Virginia Tech in the NCR By the numbers

>1200 NCR-based Graduate Students

>45 Degree Programs offered by 7 VT colleges in NCR

>120 (AP & TR) Faculty >40 Adjunct Faculty

55K – Number of VT Alumni in the NCR

>4,000 — Undergraduates from NCR study at Virginia Tech

NCR Hosts #1 and #2 Funding / Pl in COE

>215 Researchers, Faculty, Students, & Staff In VTRC-A



Sonja Schmid

Associate Professor and Co-Director of Graduate Program

Science and Technology In Society (STS)



Charles Clancy

Associate Professor of Electrical and Computer Engineering (ECE)

Director of Hume Center

Anne Khademian

Professor and Director for School of Public and International Affairs (SPIA)



Naren Ramakrishnan

Professor of Computer Science

Director of Decision Analytics Center

Opportunities to Serve in the NCR...

Sanjay Raman

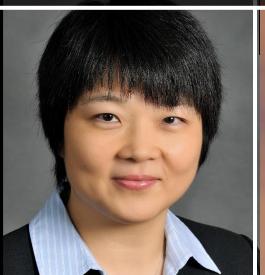
DARPA

Wenjing Lu

National Science Foundation



A Few Recent IPA Appointments
At Government Science and
Technology Agencies





Kostas Triantis

National Science Foundation

Ranga Pitchumani

Department of Energy

Timothy J. Cathcart

Ph.D.: Science and Technology Studies (2008)

Brigadier General, Special Assistant to the Director, Air National Guard





Amy P. Kaminski

Ph.D. Science and Technology Studies (2015)

Senior policy advisor to the chief scientist at NASA

Peter Noonan

Ed.D. Educational Leadership and Policy Studies (2011)

Superintendent of Fairfax City Public Schools





Jeffrey Stern

Ph.D.: Public Administration / Public Affairs (2014)

State coordinator for the Virginia Department of Emergency Management (VDEM)

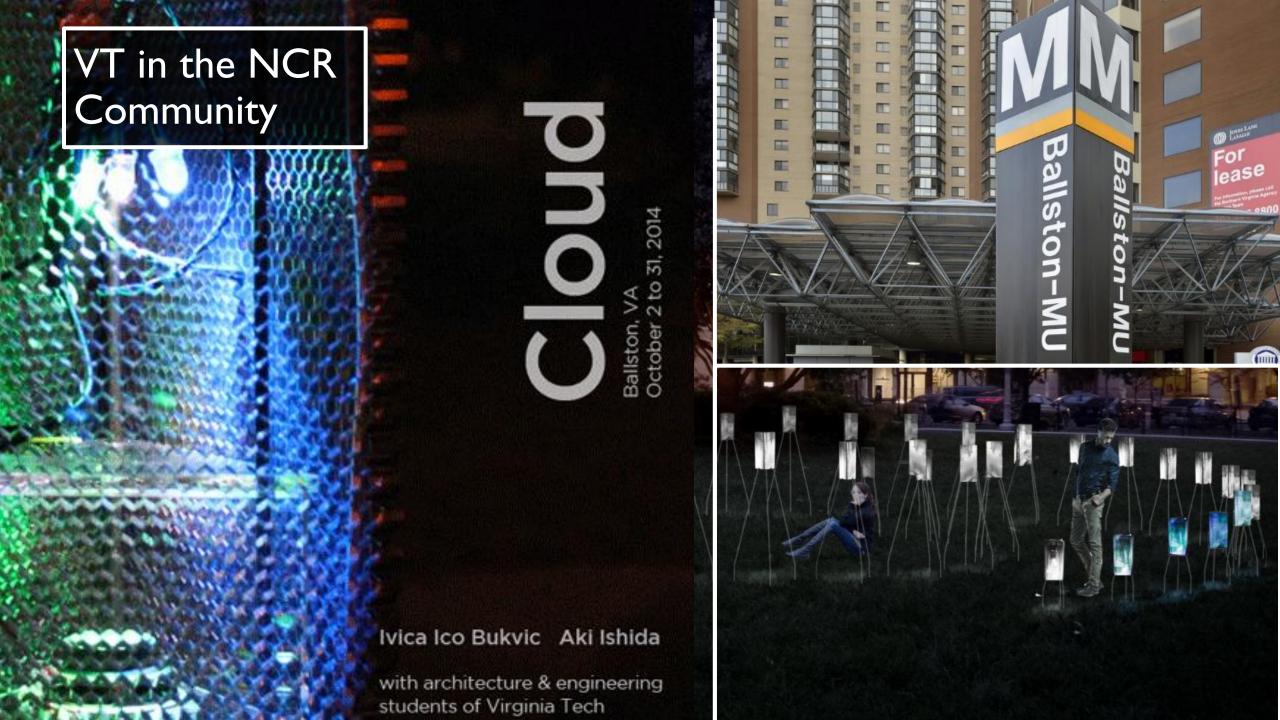


Virginia Tech as a convener in the NCR...





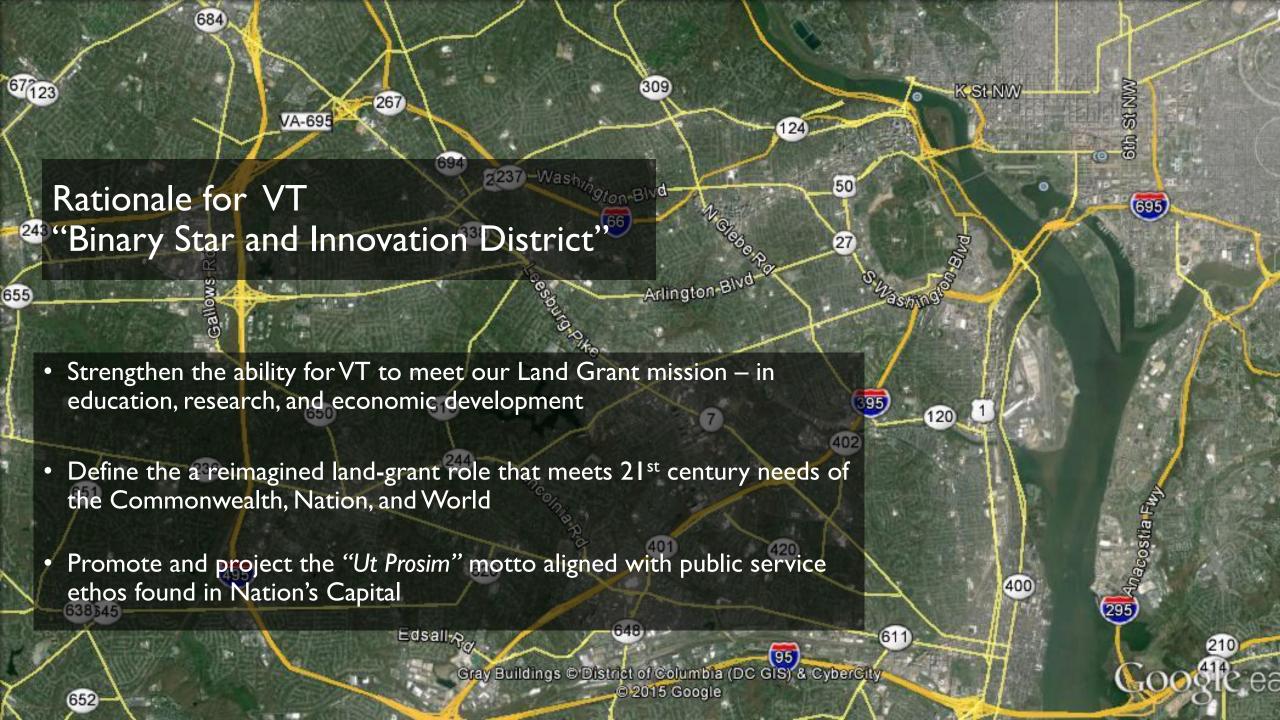




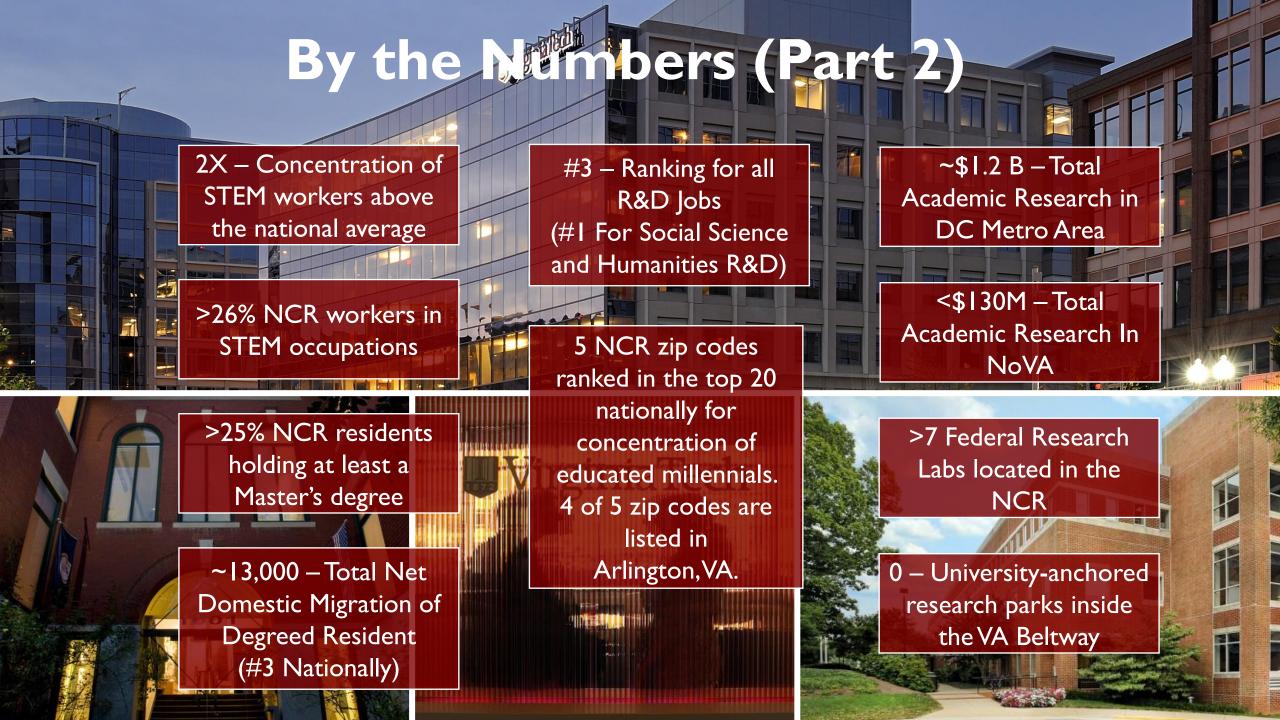


'We must find ways to exploit this "Binary Star" by building our National Capital Region presence into a Global Innovation District that serves all three functional mission areas of discovery, learning and engagement.'

- Virginia Tech President Tim Sands, October 17, 2014

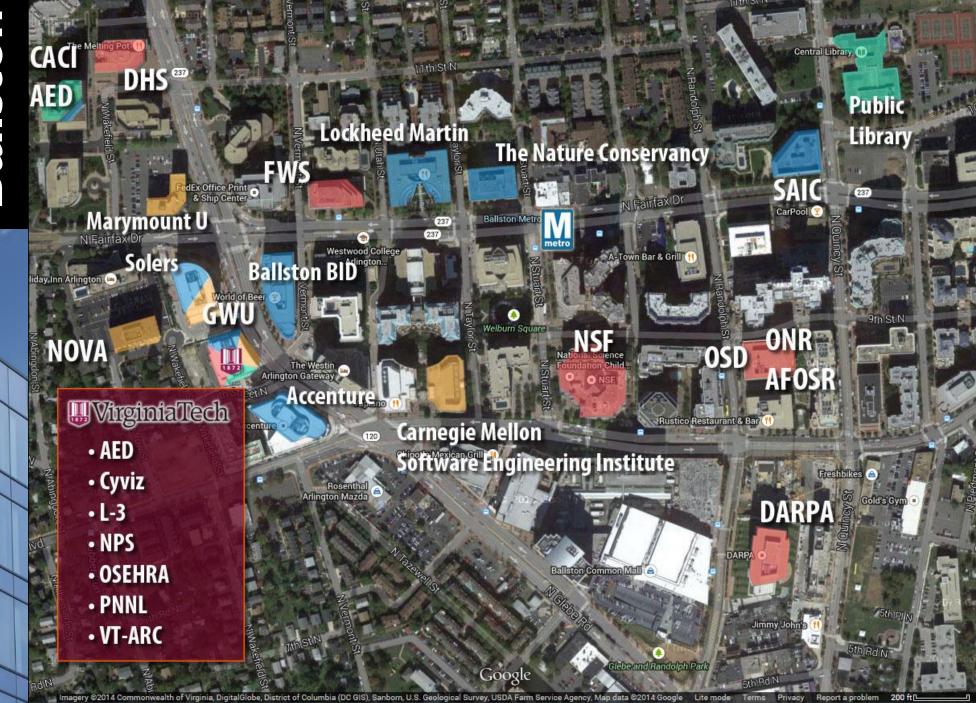








Ballston



Thank You!



Steven McKnight Vice President, National Capital Region shm@vt.edu



Student Access & Affordability Assessment

August 31, 2015

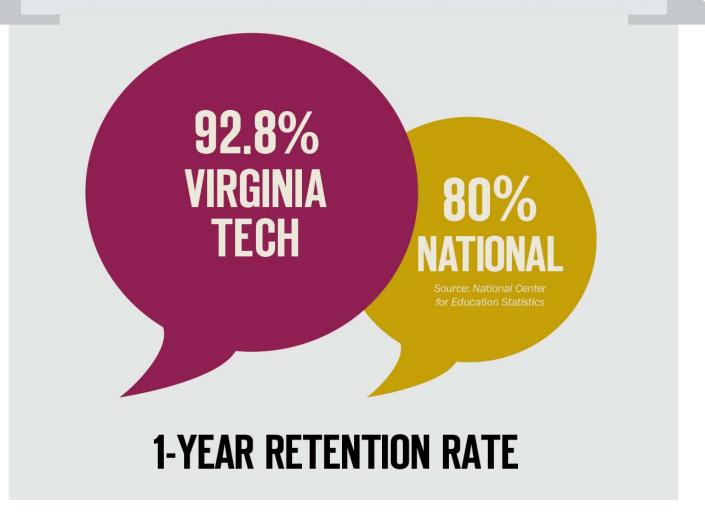
WirginiaTech

VIRGINIA TECH UNDERGRADUATE SUCCESS

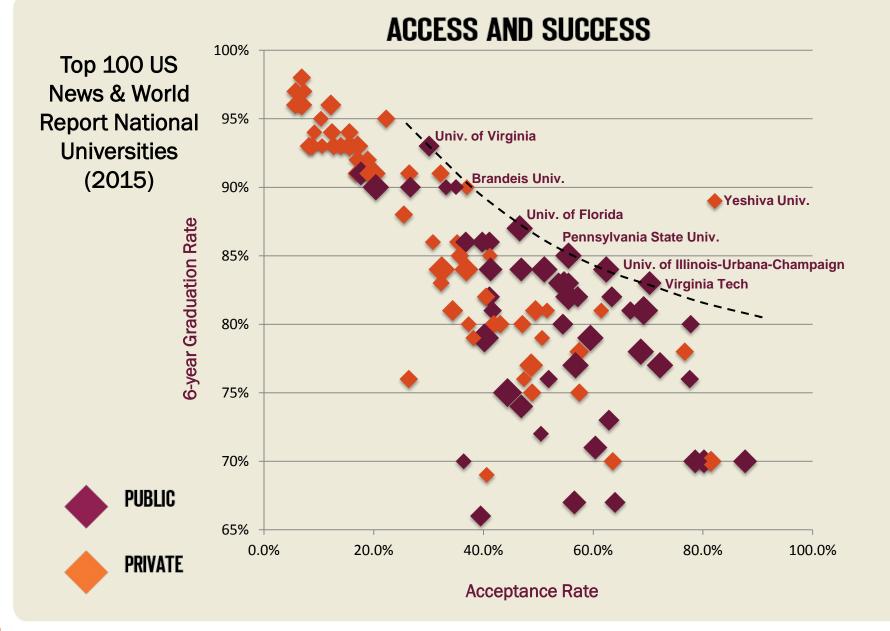




VIRGINIA TECH UNDERGRADUATE SUCCESS









CLASS OF 2014 GRADS: 4,750 GRADUATE WITHOUT DEBT



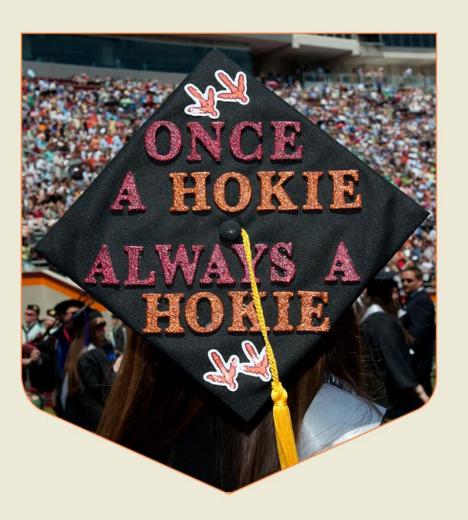
OF GRADUATES REPORTED BEING EMPLOYED OR **ATTENDING GRADUATE SCHOOL** WITHIN SIX MONTHS OF GRADUATION



Source: 2013-14 Post-Graduation Survey Report, Virginia Tech Career Services

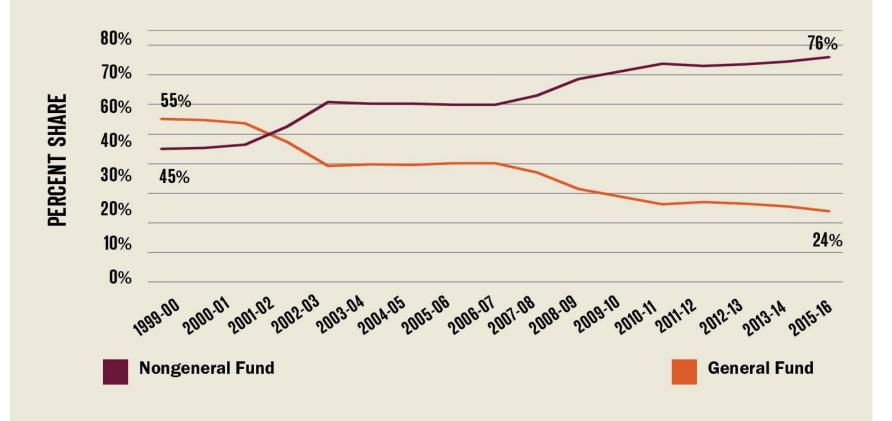


Paying for a Virginia Tech Education





UNIVERSITY DIVISION FUND SPLIT

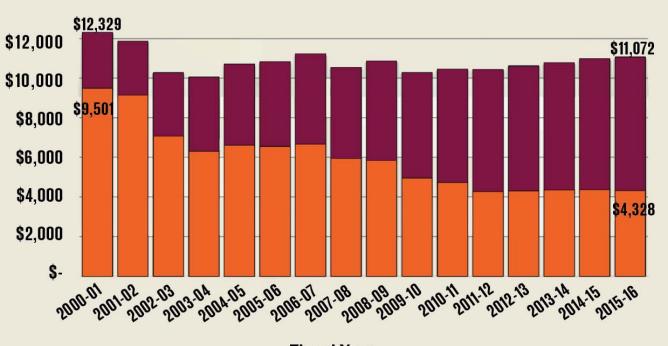




RESOURCES PER STUDENT

Tuition and General Fund per student combine to generate fewer resources per student than in 2000-01.

GF and T&F per Resident FTE Inflation Adjusted to 2000s



Fiscal Year

INFLATION ADJUSTED GF/FTE

INFLATION ADJUSTED T&F



2015-16 COMMONWEALTH OF VIRGINIA TUITION & FEES









EXAMPLE OF INCOME RANGES: 2013 INCOMES









$$$0 - $24,338$$

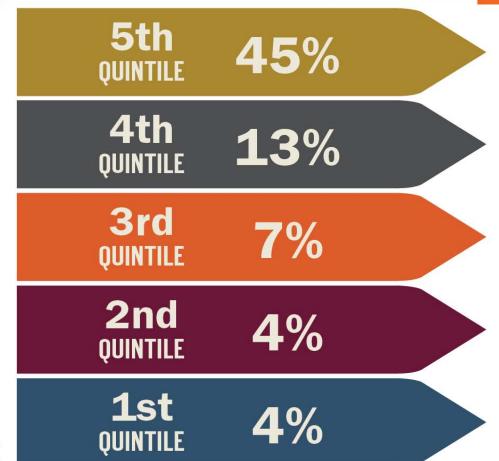
2013 IN-STATE UNDERGRADUATE STUDENTS DISTRIBUTION OF INCOME BY QUINTILE

5th **27.16**% **QUINTILE** 4th **16.15**% **QUINTILE** 3rd 9.34% **QUINTILE** 2nd 8.78% **QUINTILE** 1st **6.20**% **QUINTILE**

32.37% NO FAFSA

Source: Student Costs in Higher Education: Focus on Virginia Tech, Institutional Research, Spring—Summer 2015

2013 OUT-OF-STATE UNDERGRADUATE STUDENTS DISTRIBUTION OF INCOME BY QUINTILE



27% NO FAFSA

Source: Student Costs in Higher Education: Focus on Virginia Tech, Institutional Research, Spring—Summer 2015



VIRGINIA TECH STUDENT COSTS OF HIGHER EDUCATION REPORT

Summary Results

- Current financial aid practices have been keeping up with costs for students from the lowest income quintile.
- Net costs are increasing the quickest for students in the third and fourth income quintiles
- Increases in net costs appear to negatively impact retention and graduation for students with the lowest EFCs



PERSISTENCE IMPACT AS NET COSTS INCREASE

_	Student A's Net Cost	Student B's Net Cost	Likelihood of Student B Being Retained
Expected Family Contribution Quartile 1 (includes all students in income quintile 1)	w	W + \$1,000	5.06 percentage points less than Student A
Expected Family Contribution Quartile 2	X	X + \$1,000	1.09 percentage points less than Student A
Expected Family Contribution Quartile 3	Y	Y + \$1,000	0.10 percentage points less than Student A
Expected Family Contribution Quartile 4	Z	Z + \$1,000	1.14 percentage points less than Student A

The effect of \$1000 increase in net costs is significantly different from zero (p < 0.01) for EFC Quartile 1 only.

Regressions controlled for income at entry, EFC at entry, age at entry, gender, SAT score, housing status, and race (Black, Asian, Hispanic, unknown).



EFFECT OF INCREASING COSTS ON STUDENTS IN INCOME QUINTILE 1

NET COSTS = \$9,000

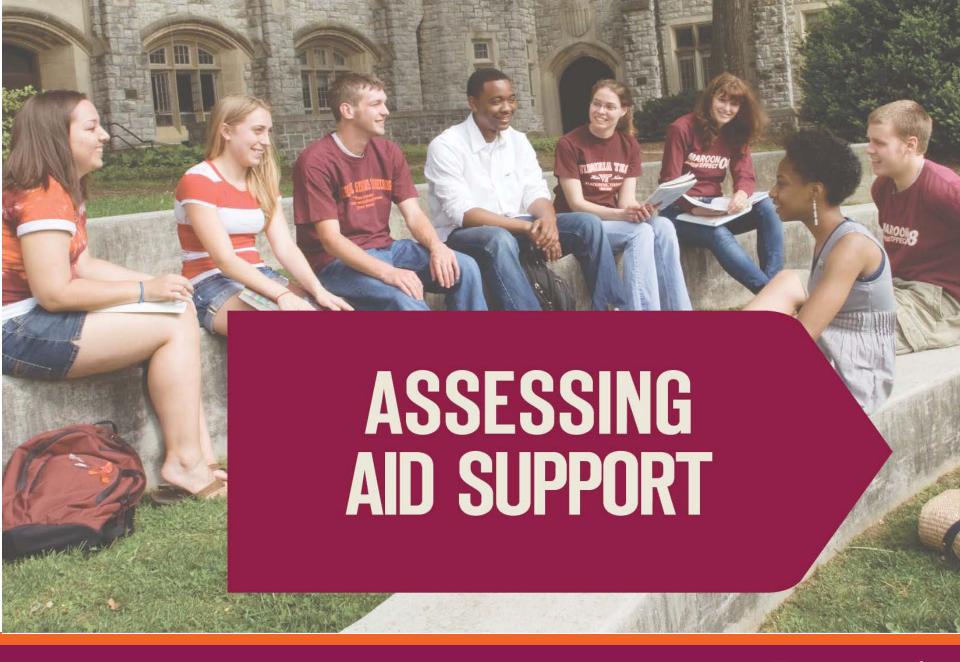
Student A

NET COSTS = \$10,000

Student B

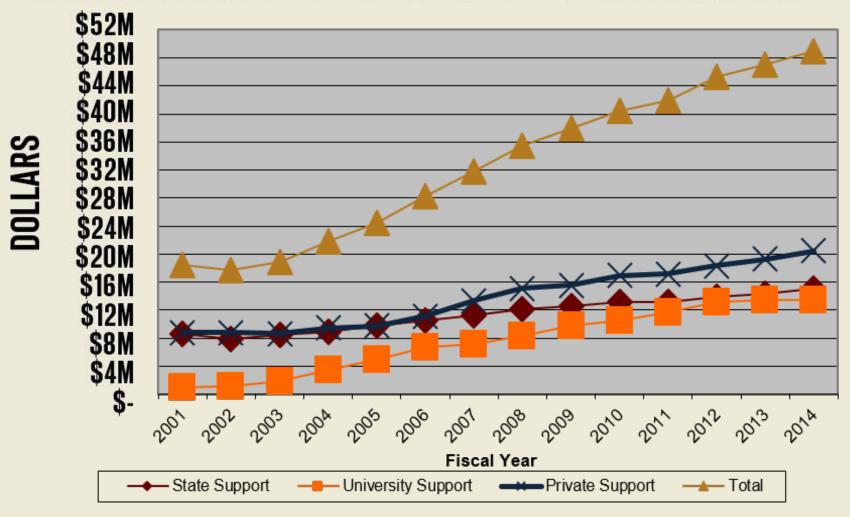
Probability of Student B returning is 5% less







TUITION SCHOLARSHIPS SUPPORTED BY IN-STATE UNDERGRADUATE SCHOLARSHIPS





AVERAGE FINANCIAL AID PACKAGE

2014-15 In-State Freshmen by Income Bracket In-State Cost of Attendance: \$23,730

3RD, 4TH, & 5TH QUINTILES EXPERIENCE HIGHEST PERCENTAGES OF LOANS IN FINANCIAL AID PACKAGES

Income Bracket	Average Aid Package	- total	Loan Percentage of Package
\$0 - \$24,338	\$16,633	\$5,728	35%
\$24,339 — \$52,413	\$15,319	\$5,849	39%
\$52,414 — \$80,977	\$11,224	\$6,047	58%
\$80,978 - \$124,106	\$7,709	\$5,808	81%
\$124,107+	\$6,218	\$5,758	95%



2014-15 TOTAL UNMET NEED OF UNDERGRADUATES

\$7,058 In-State \$18,866 Out-of-State

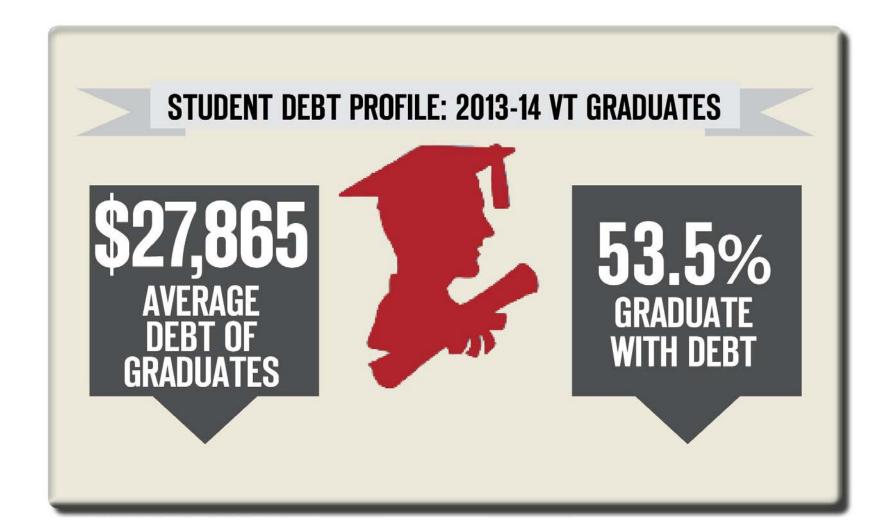
\$6,605 In-State \$18,113 Out-of-State \$6,828 In-State \$17,905 Out-of-State \$6,250 In-State \$16,897 Out-of-State

Freshman

Sophomore

Junior

Senior



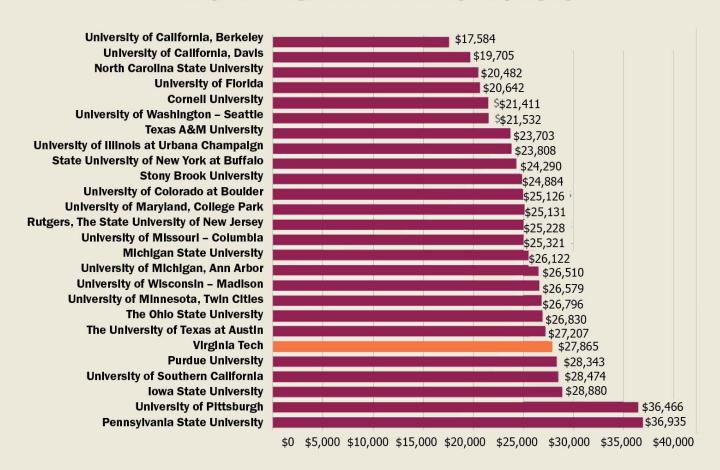
2013-14 NATIONAL STUDENT DEBT PROFILE

\$29,000
AVERAGE DEBT OF GRADUATES NATIONALLY



69%
GRADUATE
WITH DEBT
NATIONALLY

AVERAGE DEBT OF THE 2013-14 GRADUATES: VIRGINIA TECH AND PEER INSTITUTIONS





FIVE YEAR AVERAGE FOR STUDENTS WHO GRADUATE WITH DEBT

Race/Ethnicity	Percentage Graduating with Debt	Average Loan Amount for those Who Graduate with Debt	Average 1st Year Retention Rate	Average 6 Year Graduate Rate
American Indian or Alaskan Native	58%	\$28,323	90%	77%
Asian	56%	\$22,917	94%	82%
Black or African American	76%	\$29,501	88%	70%
Latino or Hispanic Heritage	64%	\$27,177	91%	78%
Native Hawaiian or Other Pacific Islander*	29%	\$30,743	83%	i .
Two or More Races	55%	\$27,051	91%	
White	52%	\$25,526	92%	83%
Not Reported	53%	\$24,048	90%	82%

^{*}There were Native Hawaiian or Other Pacific Islander graduates in 2013-14 only.



STUDENT DEBT PROFILE: 2013-14 VT GRADUATES



HIGH EMPLOYMENT RATE

STRONG INCOME

STANDARD LOAN REPAYMENT

2.6% LOAN DEFAULT RATE



Only comprehensive public research university above the 90th percentile in all three categories of value added institution

PERCENTILE: 91

Value-added, mid-career salary (highest degree alumni) PERCENTILE: 93

Value-added, repayment rate on loans PERCENTILE: 97

Value-added, occupational earnings power

Source: Brookings College Value-Added Measures, April 2015



VIRGINIA TECH: ABOVE 90TH PERCENTILE IN THREE VALUE-ADDED CATEGORIES

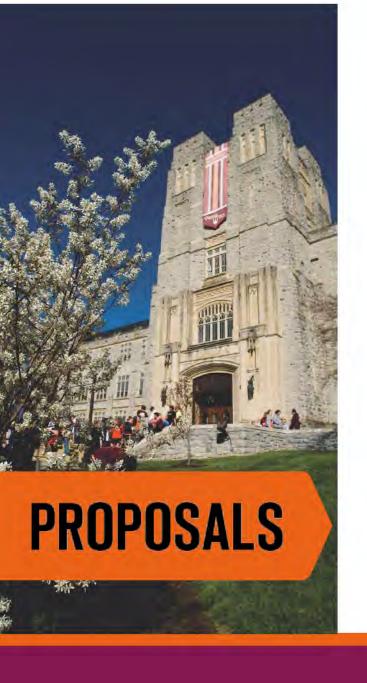
COLLEGE NAME	PERCENTILE: Value-added, mid-career salary (highest degree alumni)	PERCENTILE: Value-added, repayment rate on loans	PERCENTILE: Value-added, occupational earnings power
Virginia Tech	91	93	97
Cornell University	96	97	88
Michigan State University	64	61	54
North Carolina State University at Raleigh	82	79	96
Ohio State University-Main Campus	51	40	64
Pennsylvania State University-Main Campus	63	27	83
Purdue University-Main Campus	86	83	94
University of California-Berkeley	97	72	95
University of Wisconsin-Madison	65	91	82

Source: Brookings College Value-Added Measures, April 2015









PRIVATE SCHOLARSHIPS

EXPAND SUPPORT RESOURCES

REVIEW ACADEMIC REQUIREMENTS



PRIVATE SCHOLARSHIPS

- Set target goals to increase private scholarship aid for lower to middle income quintiles
- Increase scholarship aid for student experiences



FINANCIAL AID PROGRAMMATIC EXAMPLES

Expand current
Virginia Tech Grant
to include
Quintiles 1 – 3
Estimated cost:
\$10-12 million annually

Strengthen Funds for the Future Program to 100% tuition mitigation through Quintiles 1 – 4
Estimated cost: Additional \$1.3 million annually

Target Closing Gap for Net Price, In-State Students, Quintiles 1-3 Estimated cost: \$10-12 million annually

Implement \$5,000 grant for Internship, Study Abroad, Experiential Learning for Quintiles 1 – 3 Estimated cost: \$14.8 million annually



EXPAND SUPPORT RESOURCES

■ Debt counseling services



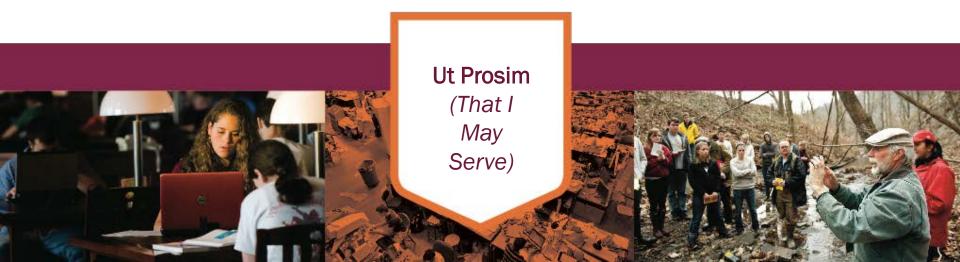
REVIEW ACADEMIC REQUIREMENTS

- Requirements above 120 hours
- Expand credit hour delivery in summer and winter terms





QUESTIONS?



MINUTES

August 31, 2015

The Board of Visitors of Virginia Polytechnic Institute and State University met on Monday, August 31, 2015, at 1:50 p.m. in Arlington, Virginia.

Present Absent

Mr. James L. Chapman, IV (Vice-Rector)

Dr. Nancy V. Dye

Mr. William D. Fairchild, III

Mr. B. Keith Fulton

Mr. Charles T. Hill

Mr. Mehmood S. Kazmi

Ms. Deborah Leigh Martin Petrine (Rector)

Mr. Michael J. Quillen

Mr. Wayne H. Robinson

Dr. J. Thomas Ryan

Mr. Mehul P. Sanghani

Mr. Steve Sturgis

Mr. Dennis H. Treacy

Mr. Horacio A. Valeiras

Constituent Representatives:

Dr. Rami Dalloul, Faculty Representative

Mr. Walter D. Cook III (Dan), Staff Representative - Absent

Mr. Mohammed Seyam, Graduate Student Representative

Ms. Morgan Sykes, Undergraduate Student Representative

Also present were the following: President Timothy Sands, Mr. Whit Babcock, Ms. Shelia Collins, Dr. Karen DePauw, Dr. John Dooley, Dr. Guru Ghosh, Ms. Hunter Gresham, Ms. Natalie Hart, Ms. Kay Heidbreder, Mr. Larry Hincker, Mr. Tim Hodge, Ms. Elizabeth Hooper, Ms. Sharon Kurek, Dr. Stephen McKnight, Dr. Scott Midkiff, Ms. Kim O'Rourke, Dr. Patty Perillo, Mr. Charles Phlegar, Dr. Ellen Plummer, Dr. Scot Ransbottom, Dr. Thanassis Rikakis, Ms. Savita Sharma, Mr. Dwight Shelton, Ms. Sandra Smith, Dr. Tom Tillar, Dr. Sherwood Wilson, Mr. Chris Yianilos, faculty, staff, students, guests, and reporters.

Rector Petrine welcomed the new Board members and new representatives: Mr. Kazmi, Mr. Hill, Dr. Dalloul, Mr. Seyam, Ms. Sykes.

* * * *

Rector Petrine announced the 2016 Board of Visitors' meeting dates:

March 20-21, 2016 June 5-6, 2016 August 28-29, 2016 November 6-7, 2016

The Rector added that the August meeting will be in the United States preceded or followed by a trip to Switzerland to see the Center in Riva San Vitale. More details will be forthcoming

* * * * *

Rector Petrine asked for a motion to approve the minutes of the June 1, 2015, meeting as distributed. The motion was made by Mr. Chapman and seconded by Mr. Fairchild. The minutes were approved unanimously.

* * * * *

REPORT OF THE EXECUTIVE COMMITTEE

Rector Petrine asked for a motion to approve the minutes of the August 5, 2015, meeting of the Executive Committee of the Board. The motion was made by Mr. Chapman and seconded by Mr. Fairchild. The minutes were approved unanimously. (Copy filed with the permanent minutes and marked Attachment A.)

As part of the Executive Committee report, approval of the following resolution was moved by Dr. Ryan, seconded by Mr. Valeiras, and approved unanimously.

Resolution to Ratify Actions of the Executive Committee of the Board of Visitors on August 5, 2015

- a. Resolution to Approve Capital Project for East Eggleston Renovation
- b. Resolution to Name the Virginia Tech Carilion (VTC) Court at Cassell Coliseum
- c. Resolution to Change the Name of Spring Road to "Beamer Way"
- d. Resolution for Approval of the 2015-2016 Faculty Salary Adjustments

That the resolution ratifying the above actions taken by the Executive Committee of the Board of Visitors at a special meeting convened on August 5, 2015, be approved. (Copies filed with the permanent minutes and marked Attachment B.)

REPORT OF THE ACADEMIC AFFAIRS COMMITTEE

* * * *

Rector Petrine called on Dr. Ryan for a report of the Academic Affairs Committee. (Copy filed with the permanent minutes and marked Attachment C.)

* * * * *

As part of the Academic Affairs Committee report, approval of the following resolution was moved by Dr. Ryan, seconded by Mr. Fulton, and approved unanimously.

Resolution for Ratification of Changes to the 2015-2016 Faculty Handbook

That the 2015-2016 Faculty Handbook be ratified. (Copy filed with the permanent minutes and marked Attachment D.)

* * * * *

As part of the Academic Affairs Committee report, approval of the following resolution was moved by Dr. Ryan, seconded by Mr. Fulton, and approved unanimously.

Resolution to Revise the Charge of the Commission on Equal Opportunity and Diversity

That the University Council Constitution be changed to reflect the revised charge of the Commission on Equal Opportunity and Diversity as stated in the above resolution. (Copy filed with the permanent minutes and marked Attachment E.)

* * * * * * * * * *

REPORT OF THE BUILDINGS AND GROUNDS COMMITTEE

Rector Petrine called on Mr. Fairchild for a report of the Buildings and Grounds Committee. (Copy filed with the permanent minutes and marked Attachment F)

* * * * *

As part of the Buildings and Grounds Committee report, approval of the following resolution was moved by Mr. Fairchild, seconded by Mr. Quillen, and approved unanimously.

Resolution for A & N Electric Cooperative Underground Electric Utility Easement

That the resolution authorizing the Vice President for Administration to execute easements to A & N Electric Cooperative be approved. (Copy filed with the permanent minutes and marked Attachment G.)

As part of the Buildings and Grounds Committee report, approval of the following resolution was moved by Mr. Fairchild, seconded by Mr. Sturgis, and approved unanimously.

Resolution for Approval to Grant an Easement to Rappahannock Electric Service Cooperative

That the resolution authorizing the Vice President for Administration to execute the easement to Rappahannock Electric Service Cooperative be approved. (Copy filed with the permanent minutes and marked Attachment H.)

* * * * * * * * * *

REPORT OF THE FINANCE AND AUDIT COMMITTEE

Rector Petrine called on Mr. Chapman for the report of the Finance and Audit Committee. (Copy filed with the permanent minutes and marked Attachment I.)

* * * * *

As part of the Finance and Audit Committee report, approval of the following resolution was moved by Mr. Chapman, seconded by Mr. Valeiras, and approved unanimously.

Resolution for Approval of Potential State Budget Initiatives for 2016-2018

That the university administration be authorized to submit these budget initiatives to the commonwealth for inclusion in the 2016-18 Executive Budget proposal in accordance with state instructions and consistent with the initiatives contained herein. (Copy filed with the permanent minutes and marked Attachment J.)

* * * *

As part of the Finance and Audit Committee report, approval of the following resolution was moved by Mr. Chapman, seconded by Mr. Valeiras, and approved unanimously.

Resolution for Approval of the Year-to-Date Financial Performance Report (July 1, 2014 – June 30, 2015)

That the report of income and expenditures for the University Division and the Cooperative Extension/Agricultural Experiment Station Division for the period of July 1, 2014, through June 30, 2015, and the Capital Outlay report be accepted. (Copy filed with the permanent minutes and marked Attachment K.)

* * * * *

As part of the Finance and Audit Committee report, approval of the following resolution was moved by Mr. Chapman, seconded by Mr. Valeiras, and approved unanimously.

Resolution for Approval of Virginia College Building Authority 9(d) Financing

That the resolution authorizing the issuance of 9(d) bonds through the Virginia College Building Authority on behalf of the university for the Unified Communications project be approved. (Copy filed with the permanent minutes and marked Attachment L.)

Resolutions for Approval of Virginia Tech 9(d) Financing

As part of the Finance and Audit Committee report, approval of the following resolutions was moved by Mr. Chapman, seconded by Mr. Hill, and approved unanimously.

- a. Master Resolution Dormitory and Dining Hall System Bonds
- b. Series Resolution Series 2015A Dormitory and Dining Hall System Bonds
- c. Master Resolution University Services System Bonds
- d. Series Resolution Series 2015C University Services System Bonds
- e. Master Resolution Utility System Bonds
- f. Series 2015D Utility System Bonds
- g. Master Resolution Athletic Facilities Systems Bonds
- h. Series Resolution Series 2015B Athletic Facilities System Bonds
- i. Bond Resolution Series 2015E (General Revenue Pledge Refunding Bonds)
- j. Preliminary Official Statement
- k. Continuing Disclosure Agreement
- I. Bond Purchase Agreement

That the resolutions authorizing and securing the General Revenue Pledge Refunding Bonds, Series 2015E, be approved. (Copies filed with the permanent minutes and marked Attachment M.)

* * * *

As part of the Finance and Audit Committee report by Mr. Chapman and with the endorsement of the Buildings and Grounds Committee, the following resolution was moved by Mr. Chapman, seconded by Mr. Valeiras, and approved unanimously.

Resolution for Approval of the 2016-2022 Capital Outlay Plan

That the Six-Year Capital Outlay Plan listing of projects shown on Attachment A for the period 2016 through 2022 as submitted to the state be ratified.

And further, that the list of projects shown on Attachment B as the university's six-year capital plan of entirely nongeneral fund capital projects for the 2016-2022 planning period be approved, with each individual project to be approved by a Board of Visitors resolution prior to its implementation. (Copy filed with the permanent minutes and marked Attachment N.)

* * * * *

As part of the Finance and Audit Committee report by Mr. Chapman and with the endorsement of the Buildings and Grounds Committee, the following resolution was moved by Mr. Chapman, seconded by Mr. Valeiras, and approved unanimously.

Resolution for Approval of Capital Project for the Virginia Bioinformatics Institute
Data Center Expansion

That the resolution authorizing Virginia Tech to complete the Virginia Bioinformatics Institute Data Center Expansion be approved. (Copy filed with the permanent minutes and marked Attachment O.)

* * * * * * * * * *

REPORT OF THE RESEARCH COMMITTEE

Rector Petrine called on Mr. Treacy for the report of the Research Committee. (Copy filed with the permanent minutes and marked Attachment P.)

As part of the Research Committee report by Mr. Treacy, the following resolution was moved by Mr. Treacy, seconded by Ms. Dye, and approved unanimously.

Resolution for Approval for Exclusion of Certain Officers/Directors

That the resolution be adopted. (Copy filed with the permanent minutes and marked Attachment Q.)

* * * * *

As part of the Research Committee report by Mr. Treacy, the following resolution was moved by Mr. Treacy, seconded by Mr. Fulton, and approved unanimously.

Resolution for Approval for Revision of University Policy 13010: Individual Conflicts of Interest and Commitment

That the revised policy 13010, Individual Conflicts of Interest and Commitment, be approved effective August 31, 2015. (Copy filed with the permanent minutes and marked Attachment R.)

REPORT OF THE STUDENT AFFAIRS AND ATHLETICS COMMITTEE

Rector Petrine called on Mr. Robinson for the report of the Student Affairs and Athletics Committee. (Copy filed with the permanent minutes and marked Attachment S.)

* * * * *

As part of the Student Affairs and Athletics Committee report by Mr. Robinson, the following resolution was moved by Mr. Robinson, seconded by Mr. Sanghani, and approved unanimously.

Resolution for Approval of Policy Referring Students Exhibiting Suicidal Tendencies or Behavior to Cook Counseling Center

That the resolution recommending adoption of a policy to refer students exhibiting suicidal tendencies or behaviors to the Cook Counseling Center be approved and the accompanying referral awareness implementation plan be enacted. (Copy filed with the permanent minutes and marked Attachment T.)

* * * * * * * * * * *

PRESIDENT'S REPORT

As part of the President's report by President Sands, the following resolution was moved by Mr. Chapman, seconded by Mr. Quillen, and approved unanimously.

Resolution of Appreciation Honoring John C. Lee IV

That the resolution recognizing John C. Lee IV for his service as a member of the Board of Visitors be approved. (Copy filed with the permanent minutes and marked Attachment U.)

* * * *

As part of the President's report by President Sands, the following resolution was moved by Mr. Chapman, seconded by Mr. Quillen, and approved unanimously.

Resolution of Appreciation Honoring Cordel L. Faulk

That the resolution recognizing Cordel L. Faulk for his service as a member of the Board of Visitors be approved. (Copy filed with the permanent minutes and marked Attachment V.)

* * * * *

As part of the President's report by President Sands, the following resolution was moved by Mr. Chapman, seconded by Mr. Treacy, and approved unanimously.

Resolution to Revise the By-Laws of The Virginia Tech Board of Visitors

That the proposed revisions to the By-laws of the Virginia Tech Board of Visitors be approved, effective immediately. (Copy filed with the permanent minutes and marked Attachment W.)

* * * * *

As part of the President's report, President Sands shared with the Board the **Report of Research and Development Disclosures** – no action needed. (Copy filed with the permanent minutes and marked Attachment X.)

* * * * *

As part of the President's report by President Sands shared the following certification document. No Board action is needed.

Atlantic Coast Conference (ACC) Governing Board Annual Certification

(Copy filed with the permanent minutes and marked Attachment Y.)

Motion to Begin Closed Session

Mr. Chapman moved that the Board convene in a closed meeting, pursuant to § 2.2-3711, Code of Virginia, as amended, for the purposes of discussing:

- Appointment of faculty to Emeritus status, consideration of individual salaries of faculty, consideration of Endowed Professors, review of departments where specific individuals' performance will be discussed, and consideration of personnel changes including appointments, resignations, tenure, and salary adjustments of specific employees* and faculty leave approvals.
- 2. The status of current litigation and briefing on actual or probable litigation.
- 3. Special awards.

all pursuant to the following subparts of 2.2-3711 (A), <u>Code of Virginia</u>, as amended, .1, .7, and .10.

The motion was seconded by Mr. Treacy and passed unanimously.

Motion to Return to Open Session

Following the Closed Session, members of the media, students, and the public were invited to return to the meeting. Rector Petrine called the meeting to order and asked Mr. Chapman to make the motion to return to open session.

Mr. Chapman made the following motion:

WHEREAS, the Board of Visitors of Virginia Polytechnic Institute and State University has convened a closed meeting on this date pursuant to an affirmative recorded vote and in accordance with the provision of The Virginia Freedom of Information Act; and

WHEREAS, Section 2.2-3712 of the <u>Code of Virginia</u> requires a certification by the Board of Visitors that such closed meeting was conducted in conformity with Virginia law;

NOW, THEREFORE, BE IT RESOLVED that the Board of Visitors of Virginia Polytechnic Institute and State University hereby certifies that to the best of each member's knowledge (i) only public business matters lawfully exempted from open meeting requirements by Virginia law were discussed in the closed meeting to which this certification resolution applies, and (ii) only such public business matters as were identified in the motion convening the closed meeting were heard, discussed or considered by the Board of Visitors.

The motion was seconded by Mr. Fairchild and passed unanimously.

* * * * *

Upon motion by Mr. Chapman and second by Dr. Ryan, approval was given to the resolutions for **Naming of University Facilities (2)** as considered in Closed Session. (Copies filed with the permanent minutes and marked Attachment Z.)

* * * * *

Upon motion by Mr. Chapman and second by Dr. Ryan, approval was given to the resolutions for **Emeritus status (8)** as considered in Closed Session. (Copies filed with the permanent minutes and marked Attachment AA.)

* * * * *

Upon motion by Mr. Chapman and second by Dr. Ryan, approval was given to the resolutions for **Endowed Chairs, Professorships, and Fellowships (3)** as considered in Closed Session. (Copies filed with the permanent minutes and marked Attachment BB.)

* * * * *

Upon motion by Mr. Chapman and second by Dr. Ryan, approval was given to the resolution for **Faculty Research Leave (1)** as considered in Closed Session. (Copy filed with the permanent minutes and marked Attachment CC.)

* * * * *

Upon motion by Mr. Chapman and second by Dr. Ryan, approval was given to the resolution for an **Exception to the Virginia Conflict of Interest Act (1)** as considered in Closed Session. (Copy filed with the permanent minutes and marked Attachment DD.)

* * * * *

Upon motion by Mr. Chapman and second by Dr. Ryan, approval was given to the resolution for ratification of the **Personnel Changes Report** as considered in Closed Session. This item was reviewed by the Finance & Audit and Academic Affairs Committees. (Copy filed with the permanent minutes and marked Attachment EE.)

* * * *

Upon motion by Mr. Chapman and second by Dr. Ryan, approval was given to the resolution for **Distribution of NIKE Contract Revenue** as considered in Closed Session. (Copy filed with the permanent minutes and marked Attachment FF.)

* * * * *

Litigation Report No Action Required

* * * * *

Constituent Reports (no action required)

Undergraduate Student Representative to the Board – Ms. Morgan Sykes Graduate Student Representative to the Board – Mr. Mohammed Seyam Staff Representative to the Board – (Absent – no report provided) Faculty Representative to the Board – Dr. Rami Dalloul

(Copies filed with the permanent minutes and marked Attachment GG.)

* * * * *

On behalf of the Board, Rector Petrine publicly congratulated Larry Hincker upon his retirement and thanked him for his extraordinary efforts on behalf of the university during his decades of service as Associate Vice President for University Relations.

* * * * *

The dates of the next regular meeting are November 8-9, 2015, on the Blacksburg campus.

* * * * *

Following a motion by Mr. Fairchild and second by Mr. Fulton, the meeting was adjourned at 3:00 p.m.

Deborah Petrine, Rector

Kim O'Rourke, Secretary

MINUTES

August 5, 2015

The Executive Committee of the Board of Visitors of Virginia Polytechnic Institute and State University met on Wednesday, August 5, 2015, at 11:00 a.m. in Huckleberry Room, The Inn at Virginia Tech, Blacksburg, Virginia.

Present Absent

Mr. James L. Chapman, IV (Vice-Rector) (via phone)

Mr. William D. Fairchild, III

Ms. Deborah Leigh Martin Petrine (Rector)

Mr. Michael J. Quillen

Mr. Wayne H. Robinson

Dr. J. Thomas Ryan

Mr. Dennis H. Treacy

Also present were the following: President Timothy Sands, Mr. Whit Babcock, Ms. Shelia Collins, Mr. Corey Earles, Ms. Kay Heidbreder, Mr. Larry Hincker, Dr. Mark McNamee, Ms. Kim O'Rourke, Mr. Charlie Phlegar, Dr. Ellen Plummer, Mr. Chris Rahmes, Mr. Dwight Shelton, guests, and reporters.

* * * * * * * * * *

As part of the Executive Committee Meeting, approval of the following resolution was moved by Dr. Ryan, seconded by Mr. Robinson, and approved unanimously.

Resolution for Approval for the Capital Project for East Eggleston Hall Renovation

That the resolution authorizing Virginia Tech to complete the East Eggleston Renovation project be approved. (Copy filed with the permanent minutes and marked Attachment A.)

Motion to Begin Closed Session

Mr. Treacy moved that the Executive Committee of the Board convene in a closed meeting, pursuant to § 2.2-3711(A)(1), Code of Virginia, as amended, for the purposes of discussing:

- 1. The consideration of faculty salaries
- 2. Special recognitions.

all pursuant to the following subparts of 2.2-3711 (A), <u>Code of Virginia</u>, as amended, .1, .7, and .10.

The motion was seconded by Dr. Ryan and passed unanimously.

Motion to Return to Open Session

Following the Closed Session, members of the media, students, and the public were invited to return to the meeting. Mr. Treacy made the following motion to return to open session:

WHEREAS, the Board of Visitors of Virginia Polytechnic Institute and State University has convened a closed meeting on this date pursuant to an affirmative recorded vote and in accordance with the provision of The Virginia Freedom of Information Act; and

WHEREAS, Section 2.2-3712 of the <u>Code of Virginia</u> requires a certification by the Board of Visitors that such closed meeting was conducted in conformity with Virginia law;

NOW, THEREFORE, BE IT RESOLVED that the Board of Visitors of Virginia Polytechnic Institute and State University hereby certifies that, to the best of each member's knowledge, (i) only public business matters lawfully exempted from open meeting requirements by Virginia law were discussed in the closed meeting to which this certification resolution applies, and (ii) only such public business matters as were identified in the motion convening the closed meeting were heard, discussed or considered by the Board of Visitors.

The motion was seconded by Dr. Ryan and passed unanimously.

Upon motion by Mr. Fairchild and second by Mr. Robinson, approval was given to the resolutions for approval of **Naming of a University Facility (2)** as considered in Closed Session. (Copies filed with the permanent minutes and marked Attachment B.)

* * * * *

Upon motion by Mr. Treacy and second by Mr. Fairchild, approval was given to the resolutions for approval of **the 2015-16 Faculty Salary Adjustments** as considered in Closed Session. (Copy filed with the permanent minutes and marked Attachment C.)

* * * * * * * * * *

The Executive Committee also recognized Dr. Mark McNamee upon his imminent retirement for an extraordinary 14-year tenure as Senior Vice President and Provost.

* * * * * * * * * *

The date of the next regular meeting is August 30-31, 2015, at the Virginia Tech Research Center in Arlington, Virginia.

* * * * *

Following a motion by Dr. Ryan and second by Mr. Treacy, the meeting was adjourned at 12:08 p.m.

Deborah Petrine, Rector

Kim O'Rourke, Secretary

RESOLUTION TO RATIFY ACTION OF THE EXECUTIVE COMMITTEE OF THE BOARD OF VISITORS

WHEREAS, the Bylaws of the Virginia Tech Board of Visitors, Article I, Section 6a, stipulate that the Executive Committee of the Board in the interim between meetings of the Board has full power to take actions on behalf of the Board and that all such actions taken by the Executive Committee are subject to ratification by the full Board at its next meeting; and

WHEREAS, the university's traditional fall faculty merit process was advanced in order to align with the legislated statewide compensation program effective August 10, 2015, and Board of Visitors approval of the university's merit recommendations is required prior to implementation; however, the quarterly board meeting schedule did not align with the merit process timeline; and

WHEREAS, the Executive Committee of the Board was convened by the Rector on August 5, 2015, to act upon the 2015 Faculty Salary Adjustments and several other items of a time-sensitive nature; and

WHEREAS, the next meeting of the full Board of Visitors is scheduled for August 31, 2015:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Visitors of Virginia Polytechnic Institute and State University hereby ratifies the actions taken by the Executive Committee of the Board on August 5, 2015 (attached), which include:

- Resolution to Approve Capital Project for East Eggleston Hall Renovation
- Resolution Regarding 2015 Faculty Salary Adjustments
- Resolution to Name the Virginia Tech Carilion (VTC) Court at Cassell Coliseum
- Resolution to Change the Name of Spring Road to "Beamer Way."

RECOMMENDATION:

That the above resolution ratifying the actions taken by the Executive Committee of the Board of Visitors at a special meeting convened on August 5, 2015, be approved.

Capital Project for East Eggleston Renovation

EXECUTIVE COMMITTEE

July 17, 2015

East Eggleston Hall was built in 1940 as a residence hall with 20,630 gross square feet, five floors, and 106 beds. The entire building housed students until 1983 when it was converted to support academic and residential administrative functions.

The university's long range planning for residential assets includes restoring the East Eggleston component to student housing. The increased size of the incoming Fall 2015 freshman class accelerated the demand for beds and, thus, the timing of a renovation to return East Eggleston to the residential bed inventory.

In late May 2015, Residential Programs initiated a renovation project to restore the rooms of four floors of East Eggleston Hall to residential use for the fall 2015 session. The scope includes 15,000 square feet of floors two through five and will provide an additional 86 beds to the housing inventory. The initial cost estimates for this scope of work were below the \$2 million capital outlay project threshold. Thus, the work was initiated as a non-capital renovation activity. As work progressed, unforeseen and unexpected code and life safety requirements were identified in late June 2015. Specifically, the requirements to install fire alarm systems and an additional sprinkler system. Addressing these requirements increases costs beyond the \$2 million capital outlay project budget threshold. The total costs are now expected to be \$2.5 million.

The university has continued work on the renovation because of the short window of time to bring the additional 86 beds on line in time for the fall 2015 semester. The university is requesting Board of Visitors' consideration and approval for a capital project authorization to complete the renovation at a not-to-exceed budget of \$2.5 million. As with all self-supporting projects, the university has developed a financing plan to support the full costs of the project. This plan calls for the use of cash from the auxiliary reserves to be repaid over time, and this fund source is sufficient to cover the project costs.

Under the 2006 Management Agreement between the Commonwealth of Virginia and the university, the Board of Visitors has the authority to approve the budget, size, scope, debt issuance, and overall funding of nongeneral fund capital outlay projects. This request is for a project authorization for the East Eggleston Renovation project.

RESOLUTION ON CAPITAL PROJECT FOR EAST EGGLESTON RENOVATION

WHEREAS, Residential Programs initiated a renovation project in late May 2015 to return four floors of East Eggleston Hall to student housing for residential use; and,

WHEREAS, the university desires to complete the renovation to house students for the fall 2015 semester; and,

WHEREAS, the original total project scope and cost estimate, inclusive of design, construction, and contingencies, were less than \$2 million; and,

WHEREAS, during the renovation unforeseen and unexpected safety issues related to the building fire rating, fire alarm systems, and sprinkler systems were identified; and,

WHEREAS, the impact of these unforeseen requirements resulted in revised total project costs of \$2.5 million; and,

WHEREAS, the university is requesting Board of Visitors' consideration and approval for a capital project authorization to complete the renovation at a not-to-exceed budget of \$2.5 million; and,

WHEREAS, Residential Programs and Finance have worked together to develop a funding plan to fully support the costs with 100 percent nongeneral fund resources from the auxiliary enterprise; and,

WHEREAS, under the 2006 Management Agreement between the Commonwealth of Virginia and the university, the Board of Visitors has authority to approve the budget, size, scope, debt issuance, and overall funding of nongeneral funded major capital outlay projects; and,

NOW, THEREFORE BE IT RESOLVED, that the university be authorized to complete the East Eggleston Renovation project with an amount not to exceed \$2.5 million and to fund the project with auxiliary revenues.

RECOMMENDATION:

That the resolution authorizing Virginia Tech to complete the East Eggleston Renovation project be approved.

RESOLUTION TO NAME THE COURT AT CASSELL COLISEUM

WHEREAS, Carilion Clinic has been a sustaining and generous supporter of Virginia Polytechnic Institute and State University; and

WHEREAS, Carilion Clinic, as a long-standing corporate benefactor, has provided philanthropic funding to the university to include support for the W.E. Skelton 4-H Educational Conference Center at Smith Mountain Lake, the Virginia Tech Carilion School of Medicine and Research Institute, the Office of the Provost, and the Virginia Tech Athletic Fund, with considerable support provided to Cassell Coliseum; and

WHEREAS, Carilion Clinic has been, and continues to be, a valued partner of the university and of the greater university community;

NOW, THEREFORE, BE IT RESOLVED, that in acknowledgement of the service and generosity of Carilion Clinic, and in recognition of past and future benefits to the university, the court of Cassell Coliseum will be known as the Virginia Tech Carilion (VTC) Court at Cassell Coliseum for a period of ten years from the date that this resolution is approved; and

BE IT FURTHER RESOLVED that at any time during this ten-year period, Carilion Clinic may propose for approval by the Board of Visitors a change to the name of the court to be effective for the remainder of the ten-year period; and

BE IT FURTHER RESOLVED that the Board of Visitors delegates to the President of the university the authority to approve such a name change in this specific instance.

RECOMMENDATION:

That the above resolution naming the Virginia Tech Carilion (VTC) Court at Cassell Coliseum be approved.

August 5, 2015

RESOLUTION ON CHANGING THE NAME OF SPRING ROAD TO "BEAMER WAY" IN HONOR OF FRANKLIN M. BEAMER '69

WHEREAS, Franklin M. Beamer '69, is a Distinguished Benefactor in the Ut Prosim Society, the university's most prestigious donor recognition society; and

WHEREAS, Frank Beamer has been the head football coach at Virginia Tech for 28 years, the longest tenure for a head football coach at the university, and his love for and loyalty to Virginia Tech has also made him the longest tenured head coach at one school among the 128 Football Bowl Series (FBS) schools; and

WHEREAS, Frank Beamer's 231 victories as Virginia Tech's head coach are the most by any Tech football coach in school history; and

WHEREAS, Frank Beamer's 273 career victories as a head coach make him the winningest active football coach among NCAA Football Bowl Series coaches and rank him sixth all-time among FBS coaches; and

WHEREAS, Frank Beamer has taken Virginia Tech football teams to bowl games for 22 consecutive seasons, giving the Hokies the second-longest active streak in the country, joining Bobby Bowden, Tom Osborne, and Paul "Bear" Bryant as the only coaches to ever accomplish this feat; and

WHEREAS, Frank Beamer has guided Virginia Tech teams to four Atlantic Coast Conference championships, five ACC Coastal Division titles, three BIG EAST Conference crowns, and eight major bowl appearances, including a trip to the national championship game following the 1999 season; and

WHEREAS, Frank Beamer earned eight national coach of the year awards following the 1999 season and in 2010 won the inaugural Joseph V. Paterno Coach of the Year Award, recognizing him for his team's performance on the field, in the classroom, and in the community; and

WHEREAS, Frank Beamer guided Virginia Tech to 10 or more wins every year from 2004 to 2011, tying the Hokies for the nation's third-longest streak in the modern era; and

WHEREAS, Frank Beamer is one of 10 all-time football coaches in Division I/FBS to win 200 or more games at one college; and

WHEREAS, Frank Beamer's attention to academics has helped lead to 230 of 244 (94.3%) senior football players from 2001 to 2014 earning their degree; and

WHEREAS, Frank Beamer was the first collegiate coach to have his football team enter the field behind a player carrying the American Flag; and

WHEREAS, Frank Beamer served as a figure of strength and compassion on campus in the aftermath of April 16, 2007; and

WHEREAS, Frank Beamer's strong belief in giving back to the community has led to fund raising efforts with his team that have accumulated over \$300,000, which has been spread among causes such as United Way, Breast Cancer Awareness, Wounded Warriors, Cyrenius H. Booth Library (Sandy Hook), Uplifting Athletes, Cycle for Survival, First Book, Hokies United, and Intrepid Fallen Hero's Fund; and

WHEREAS, Frank Beamer, as a tribute to his late mother, helped form Herma's Readers, a non-profit organization that promotes the power of reading and literacy to youngsters during their formative years (grades K-3), and which has raised over \$120,000 to purchase new books and collected more than 125,000 new/used books that have been distributed within the Commonwealth since 2008; and

WHEREAS, Frank Beamer and the football team's success on the field has been a benefit to the local economy and campus community, especially during a 93-game stretch from 1998 to 2013 when every home game was sold out, bringing over 65,000 fans to campus for each game; and

WHEREAS, Frank Beamer honors the Corps of Cadets and its Virginia Tech tradition by always taking members of the Corps on each road trip to greet the team in uniform on the field prior to each road contest; and

WHEREAS, Frank Beamer was inducted into the Virginia Tech Sports Hall of Fame in 1997, becoming the first active coach at the university to be honored in that fashion;

NOW, THEREFORE, BE IT RESOLVED, that in appreciation to Frank and Cheryl Beamer for all the contributions they have made, both on and off the football field, to Virginia Tech and the Department of Athletics, Spring Road will be renamed Beamer Way, with the official athletic department mailing/street address becoming 25 Beamer Way; and

BE IT FURTHER RESOLVED that the timing of the public announcement of the renaming will be at the discretion of the Athletic Director in consultation with the President.

RECOMMENDATION:

That the above resolution naming Beamer Way be approved.

August 5, 2015

2015-16 Faculty Salary Adjustments

FINANCE AND AUDIT COMMITTEE

July 25, 2015

As detailed in the 2015-16 Faculty Compensation Plan approved by the Board of Visitors at the June 1, 2015 meeting, faculty salary adjustments are normally reviewed and approved by the Board of Visitors in two phases: adjustments for promotion are traditionally recommended at the spring meeting and adjustments based on performance are recommended at the fall meeting. To align with the state legislated compensation process effective August 10, 2015, Board of Visitors review and approval of the faculty salary program is necessary in advance of this traditional timeline.

The General Assembly authorized a merit-based salary program for instructional faculty and administrative and professional faculty for the 2015-16 fiscal year. Consistent with the Board approved 2015-16 Faculty Compensation Plan, salary increases for merit and other special salary adjustments for continuing faculty are proposed.

To facilitate the 2015-16 merit review process for teaching and research (T/R) faculty, each academic area was provided with a resource pool based upon 2.5 percent of its actual T/R faculty salary expenses. The university also provided authority to each academic and senior management area to reallocate existing resources to provide a minimum addition of 1.0 percent to address exceptional merit for T/R faculty. The merit increase for administrative professional (A/P) faculty was limited by the state to an average of 2.0 percent. The university provided senior management areas funding for these increases based on 1.0 percent of actual A/P faculty salary expenses. Existing resources were reallocated by each senior management area to provide up to an additional 1.0 percent for A/P faculty merit.

The resulting average of the recommended merit increases for T/R faculty is **3.22** percent. The overall average of recommended T/R faculty increases, including promotion and tenure and other special increases, equals **3.55** percent. For A/P faculty the resulting merit increase is **1.99** percent. The recommended salary adjustments for merit and other special actions are listed in the attached report.

Benchmark Comparison for Instructional Faculty

The State Council of Higher Education for Virginia (SCHEV) maintains a set of peer institutions for each public institution in Virginia for the purpose of determining the adequacy of funding for faculty salaries.

Two significant changes occurred during 2007 with regard to the university's faculty salary peer group. First, at its July 10, 2007 meeting, SCHEV approved a new group of peer institutions for each Virginia institution to benchmark for salary purposes. Virginia Tech has since had 25 institutions in its peer group. The establishment of the peer group is an intensive process, and one that occurs once every 10 years.

Second, the Commonwealth made the decision to change the official data source from which peer salary information is obtained. Previously, the source for salary data from peer institutions was the American Association of University Professors (AAUP) Faculty Salary Survey data. The AAUP data has been used since the establishment of the first faculty salary peer group in 1986. During the summer 2007, SCHEV changed the source for faculty salary data to be the Integrated Postsecondary Education Data System (IPEDS). This data source does not, in the view of the institution, have the same level of integrity and consistency as the AAUP data. The switch of faculty salary data sets to IPEDS has had a dampening impact on the faculty salary peer data and thus the 60th percentile target for Virginia Tech.

The university annually monitors the authorized faculty salary average, which reflects the salary average available to Virginia Tech based on funding appropriations provided by the Commonwealth. Each year the university also computes its actual salary average, which is determined based on faculty in place at the end of each calendar year in accordance with rules issued by the Secretary of Education.

The most recent IPEDS data of the university's peer group salary average is as of the Fall of 2013. Updated comparison data, based on Fall 2014, is expected to be released by IPEDS later this year. The attached table provides a list of the university's peer group and the comparative salary averages for Fall 2014 based on SCHEV estimates for peer schools.

Though SCHEV has not yet communicated a new authorized salary average for the university, it is estimated to be \$94,817. Using SCHEV's estimated 2 percent average increase at peer institutions for 2014-15, this average places Virginia Tech at 18th out of 26 institutions. This is the equivalent of the 31st percentile of the university's peer group for 2014-15. The 60th percentile salary based on this data was \$103,946.

Using SCHEV's projection methodology for 2015-16, it is reasonable to expect that Virginia Tech's annual merit process will allow the university to advance slightly against its peer group in terms of the authorized salary ranking.

	Fall 2013 (Actual)	Fall 2014 (Projected)	Fall 2015 (Projected)
60th Percentile IPEDS	\$101,709	\$103,946*	\$106,025*
State Authorized Salary Average	\$93,104	\$94,817*	\$98,135*
Actual Average Salary(a)	\$91,775	\$94,817	\$98,135*
Rank Authorized	15 of 26	18 of 26*	17 of 26*
Rank Actual	20 of 26	18 of 26*	17 of 26*
Percentile – Authorized	32 nd	31 ^{st*}	35 ^{th*}
Percentile Actual	28 th	31 st *	35 ^{th*}

^{*}projection based on State Council of Higher Education escalator and university calculations.

^(a)Computed in accordance with traditional consolidated salary average guidelines provided by the Secretary of Education.

While the university's actual salary average is equal to the estimated authorized salary average, the state understands that the two salary averages may not match exactly at certain points in time. It is the institution's responsibility to monitor and adjust actual salary averages to stay within a reasonable range of the authorized average.

In the past, a gap between the actual and the authorized salary averages has occurred because of the university's actions, in some cases, to recruit junior faculty at salary averages well below the authorized average to replace retiring senior faculty and, on occasion, replace one senior faculty member with two junior faculty members. The actions taken in the past helped to support the departmental budgets (especially during recessions) and to provide the faculty needed to address teaching loads, especially at the undergraduate level, as enrollments have increased significantly without corresponding General Fund support. While the university has managed to reduce the gap between the authorized and actual salary averages, some gaps may occur over time as a result of the university's state funding deficiency.

Other Salary Adjustments

In addition to the faculty salary adjustments based on performance, it is necessary to adjust the salaries of specific faculty members at other times during the fiscal year. These adjustments are primarily for changes in duties and responsibilities, for special temporary assignments, for faculty transitioning to a different position as part of a search, and for merit increases upon reaching the hiring anniversary dates for restricted positions. The President, Provost, and Vice President for Finance and CFO have been authorized by the Board of Visitors to administer the faculty compensation plan during the year and act upon requests for salary adjustments. The salary changes established through this process are submitted for ratification to the Board of Visitors on a quarterly basis on the Faculty Personnel Changes Report in accordance with the Faculty Compensation Plan.

RECOMMENDATION:

That the proposed merit and special salary adjustments for faculty in the 2015-16 fiscal year be approved as presented in the following report.

August 5, 2015

Benchmark Salary Analysis 2015-16 Fiscal Year

Lade to	Fall 2013	Fall 2014	Fall 2015	2015
Institution	Actual	Projected ⁽¹⁾	Projected ⁽²⁾	Rank ⁽²⁾
California-Berkeley, University of	\$131,868	\$134,769	\$137,464	1
Cornell University	124,380	127,116	129,659	2
Southern California, University of	117,405	119,988	122,388	3
California-Davis, University of	108,585	110,974	113,193	4
Maryland-College Park, University of	104,652	106,954	109,093	5
Illinois at Urbana-Champaign, University of	104,184	106,476	108,606	6
Ohio State University-Main Campus	101,556	103,790	105,866	7
Purdue University-Main Campus	99,045	101,224	103,248	8
Rutgers University-New Brunswick/Piscataway	98,703	100,874	102,892	9
Texas at Austin, University of	98,100	100,258	102,263	10
Minnesota-Twin Cities, University of	98,028	100,185	102,188	11
Wisconsin-Madison, University of	96,822	98,952	100,931	12
Michigan State University	95,526	97,628	99,580	13
Michigan-Ann Arbor, University of	94,581	96,662	98,595	14
Florida, University of	94,482	96,561	98,492	15
Washington-Seattle Campus, University of	94,149	96,220	98,145	16
Virginia Tech	91,775	94,817	98,135	17
Stony Brook University	93,114	95,163	97,066	18
Colorado at Boulder, University of	92,682	94,721	96,615	19
Texas A & M University	92,583	94,620	96,512	20
Iowa State University	90,243	92,228	94,073	21
SUNY at Buffalo	90,234	92,219	94,064	22
Pennsylvania State University-Main Campus	89,118	91,079	92,900	23
North Carolina State University at Raleigh	87,966	89,901	91,699	24
Pittsburgh-Main Campus, University of	85,797	87,685	89,438	25
Missouri-Columbia, University of	79,092	80,832	82,449	26
Virginia Tech's Percentile Ranking	28th	31st	35th	

⁽¹⁾ Fall 2014 peer salary averages are based on SCHEV methodology, which assumes an average increase of 2.2%. IPEDS data is not yet available.

⁽²⁾ Fall 2015 peer salary averages are based on SCHEV projected average increases of 2%.

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>/</u> Appt
AGRICULTURAL RES	SEARCH AND EXTENSION CENT	ER - Alson H. Smith, Jr.		
Bergh, James	Professor		106,115	CY
Wolf, Anthony	Professor	Director	137,900	CY
Yoder, Keith	Professor		122,662	CY
Nita, Mizuho	Assistant Professor		82,262	CY
Peck, Gregory	Assistant Professor		81,405	CY
Lin, Binbin	Postdoctoral Associate		40,000	CY
Hatch, Tremain	Research Associate		52,658	CY
Lenzi, Paolo	Research Associate		41,500	CY
AGRICULTURAL RES	SEARCH AND EXTENSION CENT	ER - Eastern Shore		
Reiter, Mark	Associate Professor		105,162	CY
Rideout, Steven	Associate Professor	Director	117,200	CY
Arancibia, Ramon	Assistant Professor		96,538	CY
Strawn, Laura	Assistant Professor		87,763	AY
Gu, Ganyu	Research Associate		49,560	CY
AGRICUI TURAL RES	SEARCH AND EXTENSION CENT	FR - Fastern Virginia		
Pitman, Robert	Senior Research Associate	Superintendent	92,733	CY
AGRICIII TURAL RES	SEARCH AND EXTENSION CENT	FR - Hamnton Roads		
Derr, Jeffrey	Professor	<u> </u>	101,194	CY
Hong, Chuanxue	Professor		116,252	CY
Schultz, Peter	Professor	Director	137,400	CY
Sample, David	Associate Professor		104,735	AY
Kong, Ping	Research Scientist		63,223	CY
Owen, James	Assistant Professor		87,900	AY
Yang, Xiao	Postdoctoral Associate		45,011	CY
Zhang, Haibo	Postdoctoral Associate		47,861	CY
Fox, Laurie	Professional Lecturer		54,530	CY
Samtani, Jayesh	Professional Lecturer		69,533	CY
Brosch, Christopher	Project Associate		69,126	CY
Avenot, Herve	Research Associate		47,850	CY
AGRICULTURAL RES	SEARCH AND EXTENSION CENT	ER - Middleburg		
Grove, Jacob	Professional Lecturer		49,639	CY
	SEARCH AND EXTENSION CENT			
Fiske, David	Research Associate	Superintendent	96,100	CY
AGRICULTURAL RES	SEARCH AND EXTENSION CENT	ER - Southern Piedmont		
Johnson, Charles	Professor		101,700	CY
Teutsch, Christopher	Associate Professor		89,864	CY
Wilkinson, Carol	Associate Professor	Director	114,000	CY
Reed, Thomas	Research Scientist		77,336	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Ellis, Bradley	Professional Lecturer		44,013	CY
AGRICULTURAL RES	SEARCH AND EXTENSION CENT	TER - Southwest Virginia		
Wright, Donald	Research Associate	Superintendent	68,602	CY
AGRICULTURAL RES	EARCH AND EXTENSION CEN	TER - Tidewater		
Estienne, Mark	Professor		106,050	CY
Herbert, David	Professor		118,899	CY
Langston, David	Professor		126,100	CY
Balota, Maria	Associate Professor		87,646	CY
Holshouser, David	Associate Professor		85,661	CY
Frame, William	Assistant Professor		84,629	CY
Mehl, Hillary	Assistant Professor		82,200	CY
Oakes, Joseph	Research Associate		42,000	CY
Opoku, Joseph	Research Associate		41,300	CY
AGRICULTURAL RES	EARCH AND EXTENSION CEN	TER - Virginia Seafood		
Jahncke, Michael	Professor	Director	132,900	CY
Kauffman, Daniel	Professional Lecturer		86,961	CY
Lane, Robert	Professional Lecturer		60,990	CY
Schwarz, Michael	Professional Lecturer		82,513	CY
Villalba, Abigail	Professional Lecturer		72,352	CY
Agricultural, Leaders	hip and Community Education			
Rudd, Rickie	Professor	Department Head and Endowed Professor	193,900	CY
Kaufman, Eric	Associate Professor		99,504	AY
Niewolny, Kimberly	Associate Professor		93,894	CY
Westfall-Rudd, Donna	Associate Professor		84,574	AY
Anderson, James	Assistant Professor		83,752	CY
Archibald, Thomas	Assistant Professor		81,750	AY
Clegorne, Nicholas	Assistant Professor		63,800	CY
Friedel, Curtis	Assistant Professor		81,280	AY
Scherer, Hannah	Assistant Professor		79,761	AY
Spindler, Matthew	Assistant Professor		79,250	AY
Gehrt, Karen	Professional Lecturer		115,694	CY
Seibel, Megan	Professional Lecturer		66,918	CY
Vines, Karen	Professional Lecturer		70,574	CY
Woodward, Patricia	Professional Lecturer		56,100	CY
Drape, Tiffany	Senior Research Associate		57,639	CY
Agricultural and Appl				
Alwang, Jeffrey	Professor		142,522	AY
Blank, Steven	Professor	Department Head	194,000	CY
Bosch, Darrell	Professor		119,000	CY
Boyle, Kevin	Professor		222,246	CY

<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Davis, George	Professor		142,525	AY
Ellerbrock, Michael	Professor		116,802	AY
Geyer, Leighton	Professor		134,675	CY
Lytton, Ruth	Professor		102,615	AY
Marchant, Mary	Professor		149,760	RE10
Mills, Bradford	Professor		126,016	CY
Moeltner, Klaus	Professor		133,541	AY
Norton, George	Professor		148,000	CY
Pease, James	Professor		110,000	CY
Peterson, Everett	Professor		102,240	RE10
Stephenson, Stephen	Professor		119,778	CY
Taylor, Daniel	Professor		106,393	CY
Grant, Jason	Associate Professor		135,627	RE10
Groover, Gordon	Associate Professor		110,000	CY
You, Wen	Associate Professor		146,880	RE12
Asebedo, Sarah	Assistant Prof of Practice		82,400	AY
Ferreira, Gustavo	Assistant Professor		84,660	AY
Morgan, Kimberly	Assistant Professor		91,140	AY
Larochelle, Catherine	Research Assistant Professor		79,310	CY
Walker, Martha	Professional Lecturer		95,252	CY
Bruce, Franklin	Sr Project Associate		53,131	CY
Agriculture Technology Pr	rogram – Two Year			
Doak, Samuel	Advanced Instructor		62,140	AY
Guthrie, Joseph	Advanced Instructor		63,684	AY
Kohl, Rachel	Advanced Instructor		62,285	AY
Martin, Thomas	Advanced Instructor		63,940	AY
Gwaltney, Wesley	Instructor		53,684	AY
Mykerezi, Pavli	Senior Instructor	Director	106,300	CY
Animal and Poultry Science	<u>ces</u>			
Denbow, Donald	Professor		130,814	AY
Dunnington, Elizabeth	Professor		92,313	AY
Gerrard, David	Professor	Department Head	199,400	CY
Greiner, Scott	Professor		101,967	AY
Jiang, Honglin	Professor		135,598	RE12
Knight, James	Professor		118,033	CY
McCann, Mark	Professor		140,840	AY
Smith, Edward	Professor		122,739	RE12
Wong, Eric	Professor	Endowed Professor	136,145	RE10
Dalloul, Rami	Associate Professor		102,600	AY
Ealy, Alan	Associate Professor		102,300	AY
Eversole, Dan	Associate Professor		97,793	AY
Johnson, Sally	Associate Professor	Endowed Professor	139,300	AY
Rhoads, Robert	Associate Professor		98,050	AY
Splan, Rebecca	Associate Professor		87,037	CY

<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Wood, Cynthia	Associate Professor		89,667	AY
Cline, Mark	Assistant Professor		89,900	AY
Dorshorst, Benjamin	Assistant Professor		81,400	AY
El-Kadi, Samer	Assistant Professor		83,800	AY
Gilbert, Elizabeth	Assistant Professor		89,900	AY
Lee, Kiho	Assistant Professor		87,838	AY
Leeth, Caroline	Assistant Professor		89,000	AY
Persia, Michael	Assistant Professor		88,238	AY
Rhoads, Michelle	Assistant Professor		86,900	AY
Al Naib, Abdullah	Postdoctoral Associate		41,300	CY
Lu, Yue	Postdoctoral Associate		41,300	CY
Shi, Hao	Research Assistant Professor		66,577	AY
Bergamasco, Luciana	Instructor		64,700	AY
McCann, Julia	Instructor		75,415	CY
Tamim, Nada	Instructor		64,700	AY
Crisman, Virginia	Professional Lecturer		74,089	CY
McIntosh, Bridgett	Professional Lecturer		112,200	CY
Nulton, Lisa	Professional Lecturer		42,000	CY
Saville, Joi	Professional Lecturer		38,046	CY
Wicks, Jordan	Professional Lecturer		61,800	CY
Thorpe, Leemar	Project Associate		43,000	CY
Zhao, Lidan	Research Associate		46,463	CY
Disabassists.				
<u>Biochemistry</u>				
Bevan, David	Professor		108,168	CY
Dean, Dennis	Professor	University Distinguished Professor and Endowed Professor	331,614	CY
Gillaspy, Glenda	Professor		111,342	CY
Kennelly, Peter	Professor	Department Head	175,900	CY
Larson, Timothy	Professor		104,812	CY
Li, Jianyong	Professor		111,819	AY
Tu, Zhijian	Professor		141,437	RE12
Phillips, Katherine	Senior Research Scientist		102,338	CY
Helm, Richard	Associate Professor		105,718	CY
Klemba, Michael	Associate Professor		83,280	AY
Mukhopadhyay, Biswarup	Associate Professor		123,724	RE12
Sobrado, Pablo	Associate Professor		94,500	AY
White, Robert	Associate Professor		112,210	CY
Zhu, Jinsong	Associate Professor		110,771	RE12
Biedler, James	Research Scientist		50,992	CY
Dalal, Seema	Research Scientist		40,000	CY
Merino, Emilio	Research Scientist		64,815	CY
Qi, Yumin	Research Scientist		49,996	CY
Wu, Ling	Research Scientist		27,500	CY
da Fonseca, Isabel	Research Scientist		50,000	CY
Cassera, Maria	Assistant Professor		112,825	RE12
Mackey, Zachary	Assistant Professor		82,313	AY

State Assistant Professor	<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Allen, Kylie Postboctoral Associate 40,000 CY	Slade, Daniel	Assistant Professor		77,438	AY
Nacila_Mang Postdoctoral Associate 40,000 CY	Xu, Bin	Assistant Professor		82,313	AY
Liu, Pengcheng Postdoctoral Associate 40,000 CY Susani, Dal Postdoctoral Associate 45,000 CY Wang, Yu Postdoctoral Associate 40,000 CY Purwantini, Endang Research Assistant Professor 70,624 CY Slaughier, Stephen Professional Locturer 86,578 CY Privari, Ruth Professional Locturer 55,660 CY Rasor, Amy Research Associate 60,701 CY Ray, William Research Associate 60,701 CY Ray, William Professor 114,957 AY Biological Systems Engineering Professor 114,957 AY Brivan, Brian Professor 119,957 AY Mallarignan, Parameswaran Professor 117,912 CY Wolfe, Mary Leigh Professor 117,912 CY Wolfe, Mary Leigh Professor 137,109 RE10 Zhang, Chenning Professor 137,109 RE10 Zhang, Chenning Professor <td< td=""><td>Allen, Kylie</td><td>Postdoctoral Associate</td><td></td><td>40,000</td><td>CY</td></td<>	Allen, Kylie	Postdoctoral Associate		40,000	CY
Susarti, Dwi	Khadka, Manoj	Postdoctoral Associate		40,000	CY
Wang, Yu Potbodoral Associate 40,000 CY Purwantini, Ending Research Assistant Professor 70,624 CY Slaughter, Stephen Professional Lecturer 88,578 CY Irwin, Ruth Professional Lecturer 72,262 CY Rasor, Amy Research Associate 55,560 CY Ruggio, David Research Associate 60,701 CY Ruggio, David Senior Research Associate 46,538 CY Biological Systems Engineering Senior Research Associate 46,538 CY Biological Systems Engineering Benham, Brian Professor 114,957 AY Hession, William Professor 109,452 AY Mallikarjunan, Parameewaran Professor 109,452 AY Mellikarjunan, Parameewaran Professor 109,452 AY Zhang, Chemming Professor 114,957 AY Zhang, Chemming Professor 137,109 RE10 Zhang, Chemming Professor 137,109 RE10	Liu, Pengcheng	Postdoctoral Associate		40,000	CY
Purwantini, Endang Research Assistant Professor 70,824 CY	Susanti, Dwi	Postdoctoral Associate		45,000	CY
Slaughter, Stephen Professional Lecturer 88,578 CY Irwin, Ruth Project Director 72,262 CY Resort, Ruth Project Director 72,262 CY Resort, Ruth Project Director 72,262 CY Resort, Rugly, David Research Associate 60,771 CY Ray, William Senior Research Associate 60,771 CY Ray, William Senior Research Associate 60,771 CY Ray, William Professor 114,957 AY Resort, William Professor 114,957 AY Resort, William Professor 100,462 AY Resort, William Professor 100,462 AY Resort, William Professor 100,462 AY Resort, William Professor 137,109 RE10 CY Resort, Reso	Wang, Yu	Postdoctoral Associate		40,000	CY
Irwin, Ruth	Purwantini, Endang	Research Assistant Professor		70,624	CY
Rasor, Amy Research Associate 55,650 CY Ruggic, David Research Associate 60,701 CY Ray, William Senior Research Associate 46,538 CY Biological Systems Engineering Benham, Brian Professor 114,957 AY Hession, William Professor 109,452 AY Mallikarjunan, Parameswaran Professor 117,912 CY Wolfe, Mary Leigh Professor Department Head 202,340 CY Zhang, Chemming Professor 137,109 RE10 Zhang, Yi Heng Professor 133,719 RE10 Zhang, Yi Heng Professor 130,015 CY Barone, Justin Associate Professor 130,015 CY Barone, Justin Associate Professor 112,983 CY Barone, Justin Associate Professor 103,015 CY Heatwole, Cornad Associate Professor 103,013 CY Scott, Durelle Associate Professor 103,033 CY	Slaughter, Stephen	Professional Lecturer		88,578	CY
Rugglo, David Research Associate 60,701 CY Ray, William Senior Research Associate 46,538 CY Senior Research Associate 46,538 CY Senior Research Associate 46,538 CY Senior Research Associate 114,957 AY Hesson, William Professor 119,957 AY Mallikarijunan, Parameswaran Professor 117,912 CY Wolfe, Mary Leigh Professor 120,240 CY Zhang, Chenming Professor 137,109 RE10 Zhang, Li Heng Professor 137,109 RE10 Zhang, Li Heng Professor 130,015 CY Barone, Justin Associate Professor 130,015 CY Barone, Justin Associate Professor 130,015 CY Heatwele, Connad Associate Professor 112,983 CY Ogejo, Jactone Associate Professor 103,036 AY Senger, Ryan Associate Professor 103,308 AY	Irwin, Ruth	Project Director		72,262	CY
Ray, William Senior Research Associate 46,538 CY	Rasor, Amy	Research Associate		55,650	CY
Biological Systems Engineering Benham, Brian Professor 114,957 AY Hession, William Professor 109,452 AY Mallikarjunan, Parameswaran Professor 117,912 CY Wolfe, Mary Leigh Professor Department Head 202,340 CY Zhang, Chemming Professor 137,109 RE10 Zhang, Yi Heng Professor 113,772 AY Yagow, Eugene Senior Research Scientist 75,453 CY Barone, Justin Associate Professor 130,015 CY Barone, Justin Associate Professor 103,038 CY Goott, Durelle Associate Professor 103,038 CY Scott, Durelle Associate Professor 100,330 AY Senger, Ryan Associate Professor 100,340 AY Thompson, Theresa Associate Professor 105,177 CY Kilne, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 80,000	Ruggio, David	Research Associate		60,701	CY
Benham, Brian Professor 114,957 AY Hession, William Professor 109,452 AY Malikarjunan, Parameswaran Professor Department Head 202,340 CY Wolfe, Mary Leigh Professor Department Head 202,340 CY Zhang, Chemming Professor 137,109 RE10 Zhang, Yi Heng Professor 113,772 AY Yagow, Eugene Senior Research Scientist 75,453 CY Barone, Justin Associate Professor 130,015 CY Barone, Justin Associate Professor 112,983 CY Ogejo, Jactone Associate Professor 103,038 CY Scott, Durelle Associate Professor 97,130 AY Senger, Ryan Associate Professor 100,380 AY Thompson, Theresa Associate Professor 99,130 AY Kilne, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 86,000 AY Krom	Ray, William	Senior Research Associate		46,538	CY
Benham, Brian Professor 114,957 AY Hession, William Professor 109,452 AY Malikarjunan, Parameswaran Professor Department Head 202,340 CY Wolfe, Mary Leigh Professor Department Head 202,340 CY Zhang, Chemming Professor 137,109 RE10 Zhang, Yi Heng Professor 113,772 AY Yagow, Eugene Senior Research Scientist 75,453 CY Barone, Justin Associate Professor 130,015 CY Barone, Justin Associate Professor 112,983 CY Ogejo, Jactone Associate Professor 103,038 CY Scott, Durelle Associate Professor 97,130 AY Senger, Ryan Associate Professor 100,380 AY Thompson, Theresa Associate Professor 99,130 AY Kilne, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 86,000 AY Krom					
Hession, William	Biological Systems Engi	neering			
Mallikarjunan, Parameswaran Professor Department Head 202,340 CY Wolfe, Mary Leigh Professor Department Head 202,340 CY Zhang, Chenming Professor 137,109 RE10 Zhang, Yi Heng Professor 113,702 AY Yagow, Eugene Senior Research Scientist 75,453 CY Barone, Justin Associate Professor 130,015 CY Heatwole, Conrad Associate Professor 112,983 CY Scott, Durelle Associate Professor 97,130 AY Scott, Durelle Associate Professor 97,130 AY Thompson, Theresa Associate Professor 97,130 AY Thompson, Theresa Associate Professor 97,130 AY Kiine, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 92,800 AY Feng, Xueyang Assistant Professor 96,000 AY Ruder, Warren Assistant Professor 97,800 AY	Benham, Brian	Professor		114,957	AY
Wolfe, Mary Leigh Professor Department Head 202,340 CY Zhang, Chenming Professor 137,109 RE10 Zhang, Yi Heng Professor 113,772 AY Yagow, Eugene Senior Research Scientist 75,453 CY Barone, Justin Associate Professor 130,015 CY Heatwole, Conrad Associate Professor 112,983 CY Ogejo, Jactone Associate Professor 103,038 CY Scott, Durelle Associate Professor 97,130 AY Senger, Ryan Associate Professor 100,380 AY Thompson, Theresa Associate Professor 105,177 CY Kline, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 86,000 AY Feng, Xueyang Assistant Professor 86,000 AY Krometis, Leigh Anne Assistant Professor 87,800 AY Ruder, Warren Assistant Professor 93,800 AY Büllah, Mirza <td>Hession, William</td> <td>Professor</td> <td></td> <td>109,452</td> <td>AY</td>	Hession, William	Professor		109,452	AY
Zhang, Chenming Professor 137,109 RE10 Zhang, Yi Heng Professor 113,772 AY Yagow, Eugene Senior Research Scientist 75,453 CY Barone, Justin Associate Professor 130,015 CY Heatwole, Conrad Associate Professor 103,038 CY Ogejo, Jactone Associate Professor 103,038 CY Scott, Durelle Associate Professor 97,130 AY Senger, Ryan Associate Professor 100,380 AY Thompson, Theresa Associate Professor 105,177 CY Kline, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 86,000 AY Feng, Xueyang Assistant Professor 86,000 AY Krometis, Leigh Anne Assistant Professor 91,130 AY Ruder, Warren Assistant Professor 93,800 AY Billah, Mirza Postdoctoral Associate 43,430 CY Fuka, Daniel Postdoctora	Mallikarjunan, Parameswaran	Professor		117,912	CY
Zhang, Yi Heng Professor 113,772 AY Yagow, Eugene Senior Research Scientist 75,453 CY Barone, Justin Associate Professor 130,015 CY Heatwole, Conrad Associate Professor 112,983 CY Ogejo, Jactone Associate Professor 103,038 CY Scott, Durelle Associate Professor 100,380 AY Thompson, Theresa Associate Professor 100,380 AY Thompson, Theresa Associate Professor 105,177 CY Kline, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 92,800 AY Feng, Xueyang Assistant Professor 86,000 AY Krometis, Leigh Anne Assistant Professor 91,130 AY Ruder, Warren Assistant Professor 87,800 AY Ruder, Venkataramana Assistant Professor 93,800 AY Billah, Mirza Postdoctoral Associate 43,430 CY Fuka, Daniel	Wolfe, Mary Leigh	Professor	Department Head	202,340	CY
Yagow, Eugene Senior Research Scientist 75,453 CY Barone, Justin Associate Professor 130,015 CY Heatwole, Conrad Associate Professor 112,983 CY Ogejo, Jactone Associate Professor 103,038 CY Scott, Durelle Associate Professor 97,130 AY Senger, Ryan Associate Professor 105,177 CY Kline, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 92,800 AY Feng, Xueyang Assistant Professor 91,130 AY Krometis, Leigh Anne Assistant Professor 91,130 AY Ruder, Warren Assistant Professor 87,800 AY Billah, Mirza Postdoctoral Associate 43,430 CY Fuka, Daniel Postdoctoral Associate 42,880 CY Kaya Celiker, Hande Postdoctoral Associate 40,800 CY Lou, Song Postdoctoral Associate 40,800 CY Sheng, Jiayuan	Zhang, Chenming	Professor		137,109	RE10
Barone, Justin Associate Professor 130,015 CY Heatwole, Conrad Associate Professor 112,983 CY Ogejo, Jactone Associate Professor 103,038 CY Scott, Durelle Associate Professor 97,130 AY Senger, Ryan Associate Professor 100,380 AY Thompson, Theresa Associate Professor 105,177 CY Kline, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 86,000 AY Feng, Xueyang Assistant Professor 86,000 AY Krometis, Leigh Anne Assistant Professor 91,130 AY Ruder, Warren Assistant Professor 87,800 AY Sridhar, Venkataramana Assistant Professor 93,800 AY Fuka, Daniel Postdoctoral Associate 42,880 CY Kaya Celiker, Hande Postdoctoral Associate 42,880 CY Kaya Celiker, Hande Postdoctoral Associate 44,000 CY Sheng, J	Zhang, Yi Heng	Professor		113,772	AY
Heatwole, Conrad Associate Professor 112,983 CY Ogejo, Jactone Associate Professor 103,038 CY Scott, Durelle Associate Professor 97,130 AY Senger, Ryan Associate Professor 100,380 AY Thompson, Theresa Associate Professor 105,177 CY Kline, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 92,800 AY Feng, Xueyang Assistant Professor 96,000 AY Krometis, Leigh Anne Assistant Professor 91,130 AY Ruder, Warren Assistant Professor 97,800 AY Sridhar, Venkataramana Assistant Professor 93,800 AY Sillah, Mirza Postdoctoral Associate 43,430 CY Fuka, Daniel Postdoctoral Associate 42,880 CY Kaya Celiker, Hande Postdoctoral Associate 44,000 CY Sheng, Jiayuan Postdoctoral Associate 42,000 CY Sheng, Jiayu	Yagow, Eugene	Senior Research Scientist		75,453	CY
Ogejo, Jactone Associate Professor 103,038 CY Scott, Durelle Associate Professor 97,130 AY Senger, Ryan Associate Professor 100,380 AY Thompson, Theresa Associate Professor 105,177 CY Kline, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 92,800 AY Feng, Xueyang Assistant Professor 86,000 AY Krometis, Leigh Anne Assistant Professor 91,130 AY Ruder, Warren Assistant Professor 87,800 AY Sridhar, Venkataramana Assistant Professor 93,800 AY Sillah, Mirza Postdoctoral Associate 43,430 CY Fuka, Daniel Postdoctoral Associate 42,880 CY Kaya Celiker, Hande Postdoctoral Associate 44,000 CY Lou, Song Postdoctoral Associate 44,000 CY Sheng, Jiayuan Postdoctoral Associate 42,000 CY Baker, Priscilla<	Barone, Justin	Associate Professor		130,015	CY
Scott, Durelle Associate Professor 97,130 AY Senger, Ryan Associate Professor 100,380 AY Thompson, Theresa Associate Professor 105,177 CY Kline, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 92,800 AY Feng, Xueyang Assistant Professor 86,000 AY Krometis, Leigh Anne Assistant Professor 91,130 AY Ruder, Warren Assistant Professor 87,800 AY Sridhar, Venkataramana Assistant Professor 93,800 AY Billah, Mirza Postdoctoral Associate 43,430 CY Fuka, Daniel Postdoctoral Associate 42,880 CY Kaya Celiker, Hande Postdoctoral Associate 40,800 CY Lou, Song Postdoctoral Associate 44,000 CY Sheng, Jiayuan Postdoctoral Associate 42,000 CY Mariger, Stanley Instructor 65,673 CY Baker, Priscilla	Heatwole, Conrad	Associate Professor		112,983	CY
Senger, Ryan Associate Professor 100,380 AY Thompson, Theresa Associate Professor 105,177 CY Kline, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 92,800 AY Feng, Xueyang Assistant Professor 86,000 AY Krometis, Leigh Anne Assistant Professor 91,130 AY Ruder, Warren Assistant Professor 87,800 AY Sridhar, Venkataramana Assistant Professor 93,800 AY Billah, Mirza Postdoctoral Associate 43,430 CY Fuka, Daniel Postdoctoral Associate 42,880 CY Kaya Celiker, Hande Postdoctoral Associate 40,800 CY Lou, Song Postdoctoral Associate 44,000 CY Sheng, Jiayuan Postdoctoral Associate 42,000 CY Mariger, Stanley Instructor 65,673 CY Baker, Priscilla Professional Lecturer 69,911 CY Mitchem, Charles	Ogejo, Jactone	Associate Professor		103,038	CY
Thompson, Theresa Associate Professor 105,177 CY Kline, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 92,800 AY Feng, Xueyang Assistant Professor 86,000 AY Krometis, Leigh Anne Assistant Professor 91,130 AY Ruder, Warren Assistant Professor 87,800 AY Sridhar, Venkataramana Assistant Professor 93,800 AY Billah, Mirza Postdoctoral Associate 43,430 CY Fuka, Daniel Postdoctoral Associate 42,880 CY Kaya Celiker, Hande Postdoctoral Associate 40,800 CY Lou, Song Postdoctoral Associate 44,000 CY Sheng, Jiayuan Postdoctoral Associate 42,000 CY Mariger, Stanley Instructor 65,673 CY Baker, Priscilla Professional Lecturer 25,700 CY Ignosh, John Professional Lecturer 69,911 CY Mitchem, Charles <td>Scott, Durelle</td> <td>Associate Professor</td> <td></td> <td>97,130</td> <td>AY</td>	Scott, Durelle	Associate Professor		97,130	AY
Kline, Karen Research Scientist 65,134 CY Easton, Zachary Assistant Professor 92,800 AY Feng, Xueyang Assistant Professor 86,000 AY Krometis, Leigh Anne Assistant Professor 91,130 AY Ruder, Warren Assistant Professor 87,800 AY Sridhar, Venkataraman Assistant Professor 93,800 AY Billah, Mirza Postdoctoral Associate 43,430 CY Fuka, Daniel Postdoctoral Associate 42,880 CY Kaya Celiker, Hande Postdoctoral Associate 40,800 CY Lou, Song Postdoctoral Associate 44,000 CY Sheng, Jiayuan Postdoctoral Associate 42,000 CY Mariger, Stanley Instructor 65,673 CY Baker, Priscilla Professional Lecturer 25,700 CY Ignosh, John Professional Lecturer 69,911 CY Mitchem, Charles Professional Lecturer 66,300 CY Hanson, Jeremy	Senger, Ryan	Associate Professor		100,380	AY
Easton, Zachary Assistant Professor 92,800 AY Feng, Xueyang Assistant Professor 86,000 AY Krometis, Leigh Anne Assistant Professor 91,130 AY Ruder, Warren Assistant Professor 87,800 AY Sridhar, Venkataramana Assistant Professor 93,800 AY Billah, Mirza Postdoctoral Associate 43,430 CY Fuka, Daniel Postdoctoral Associate 42,880 CY Kaya Celiker, Hande Postdoctoral Associate 40,800 CY Lou, Song Postdoctoral Associate 44,000 CY Sheng, Jiayuan Postdoctoral Associate 42,000 CY Mariger, Stanley Instructor 65,673 CY Baker, Priscilla Professional Lecturer 25,700 CY Ignosh, John Professional Lecturer 69,911 CY Mitchem, Charles Professional Lecturer 72,660 CY Rustia, Roman Professional Lecturer 66,300 CY Hanson, Jeremy </td <td>Thompson, Theresa</td> <td>Associate Professor</td> <td></td> <td>105,177</td> <td>CY</td>	Thompson, Theresa	Associate Professor		105,177	CY
Feng, XueyangAssistant Professor86,000AYKrometis, Leigh AnneAssistant Professor91,130AYRuder, WarrenAssistant Professor87,800AYSridhar, VenkataramanaAssistant Professor93,800AYBillah, MirzaPostdoctoral Associate43,430CYFuka, DanielPostdoctoral Associate42,880CYKaya Celiker, HandePostdoctoral Associate40,800CYLou, SongPostdoctoral Associate44,000CYSheng, JiayuanPostdoctoral Associate42,000CYMariger, StanleyInstructor65,673CYBaker, PriscillaProfessional Lecturer25,700CYIgnosh, JohnProfessional Lecturer69,911CYMitchem, CharlesProfessional Lecturer72,660CYRustia, RomanProfessional Lecturer66,300CYHanson, JeremyProject Associate64,295CY	Kline, Karen	Research Scientist		65,134	CY
Krometis, Leigh AnneAssistant Professor91,130AYRuder, WarrenAssistant Professor87,800AYSridhar, VenkataramanaAssistant Professor93,800AYBillah, MirzaPostdoctoral Associate43,430CYFuka, DanielPostdoctoral Associate42,880CYKaya Celiker, HandePostdoctoral Associate40,800CYLou, SongPostdoctoral Associate44,000CYSheng, JiayuanPostdoctoral Associate42,000CYMariger, StanleyInstructor65,673CYBaker, PriscillaProfessional Lecturer25,700CYIgnosh, JohnProfessional Lecturer69,911CYMitchem, CharlesProfessional Lecturer72,660CYRustia, RomanProfessional Lecturer66,300CYHanson, JeremyProject Associate64,295CY	Easton, Zachary	Assistant Professor		92,800	AY
Ruder, Warren Assistant Professor 87,800 AY Sridhar, Venkataramana Assistant Professor 93,800 AY Billah, Mirza Postdoctoral Associate 43,430 CY Fuka, Daniel Postdoctoral Associate 42,880 CY Kaya Celiker, Hande Postdoctoral Associate 40,800 CY Lou, Song Postdoctoral Associate 44,000 CY Sheng, Jiayuan Postdoctoral Associate 42,000 CY Mariger, Stanley Instructor 65,673 CY Baker, Priscilla Professional Lecturer 25,700 CY Ignosh, John Professional Lecturer 69,911 CY Mitchem, Charles Professional Lecturer 72,660 CY Rustia, Roman Professional Lecturer 66,300 CY Hanson, Jeremy Project Associate 64,295 CY	Feng, Xueyang	Assistant Professor		86,000	AY
Sridhar, VenkataramanaAssistant Professor93,800AYBillah, MirzaPostdoctoral Associate43,430CYFuka, DanielPostdoctoral Associate42,880CYKaya Celiker, HandePostdoctoral Associate40,800CYLou, SongPostdoctoral Associate44,000CYSheng, JiayuanPostdoctoral Associate42,000CYMariger, StanleyInstructor65,673CYBaker, PriscillaProfessional Lecturer25,700CYIgnosh, JohnProfessional Lecturer69,911CYMitchem, CharlesProfessional Lecturer72,660CYRustia, RomanProfessional Lecturer66,300CYHanson, JeremyProject Associate64,295CY	Krometis, Leigh Anne	Assistant Professor		91,130	AY
Billah, MirzaPostdoctoral Associate43,430CYFuka, DanielPostdoctoral Associate42,880CYKaya Celiker, HandePostdoctoral Associate40,800CYLou, SongPostdoctoral Associate44,000CYSheng, JiayuanPostdoctoral Associate42,000CYMariger, StanleyInstructor65,673CYBaker, PriscillaProfessional Lecturer25,700CYIgnosh, JohnProfessional Lecturer69,911CYMitchem, CharlesProfessional Lecturer72,660CYRustia, RomanProfessional Lecturer66,300CYHanson, JeremyProject Associate64,295CY	Ruder, Warren	Assistant Professor		87,800	AY
Fuka, Daniel Postdoctoral Associate 42,880 CY Kaya Celiker, Hande Postdoctoral Associate 40,800 CY Lou, Song Postdoctoral Associate 44,000 CY Sheng, Jiayuan Postdoctoral Associate 42,000 CY Mariger, Stanley Instructor 65,673 CY Baker, Priscilla Professional Lecturer 25,700 CY Ignosh, John Professional Lecturer 69,911 CY Mitchem, Charles Professional Lecturer 72,660 CY Rustia, Roman Professional Lecturer 66,300 CY Hanson, Jeremy Project Associate 64,295 CY	Sridhar, Venkataramana	Assistant Professor		93,800	AY
Kaya Celiker, HandePostdoctoral Associate40,800CYLou, SongPostdoctoral Associate44,000CYSheng, JiayuanPostdoctoral Associate42,000CYMariger, StanleyInstructor65,673CYBaker, PriscillaProfessional Lecturer25,700CYIgnosh, JohnProfessional Lecturer69,911CYMitchem, CharlesProfessional Lecturer72,660CYRustia, RomanProfessional Lecturer66,300CYHanson, JeremyProject Associate64,295CY	Billah, Mirza	Postdoctoral Associate		43,430	CY
Lou, SongPostdoctoral Associate44,000CYSheng, JiayuanPostdoctoral Associate42,000CYMariger, StanleyInstructor65,673CYBaker, PriscillaProfessional Lecturer25,700CYIgnosh, JohnProfessional Lecturer69,911CYMitchem, CharlesProfessional Lecturer72,660CYRustia, RomanProfessional Lecturer66,300CYHanson, JeremyProject Associate64,295CY	Fuka, Daniel	Postdoctoral Associate		42,880	CY
Sheng, JiayuanPostdoctoral Associate42,000CYMariger, StanleyInstructor65,673CYBaker, PriscillaProfessional Lecturer25,700CYIgnosh, JohnProfessional Lecturer69,911CYMitchem, CharlesProfessional Lecturer72,660CYRustia, RomanProfessional Lecturer66,300CYHanson, JeremyProject Associate64,295CY	Kaya Celiker, Hande	Postdoctoral Associate		40,800	CY
Mariger, Stanley Instructor 65,673 CY Baker, Priscilla Professional Lecturer 25,700 CY Ignosh, John Professional Lecturer 69,911 CY Mitchem, Charles Professional Lecturer 72,660 CY Rustia, Roman Professional Lecturer 66,300 CY Hanson, Jeremy Project Associate 64,295 CY	Lou, Song	Postdoctoral Associate		44,000	CY
Baker, PriscillaProfessional Lecturer25,700CYIgnosh, JohnProfessional Lecturer69,911CYMitchem, CharlesProfessional Lecturer72,660CYRustia, RomanProfessional Lecturer66,300CYHanson, JeremyProject Associate64,295CY	Sheng, Jiayuan	Postdoctoral Associate		42,000	CY
Ignosh, JohnProfessional Lecturer69,911CYMitchem, CharlesProfessional Lecturer72,660CYRustia, RomanProfessional Lecturer66,300CYHanson, JeremyProject Associate64,295CY	Mariger, Stanley	Instructor		65,673	
Mitchem, Charles Professional Lecturer 72,660 CY Rustia, Roman Professional Lecturer 66,300 CY Hanson, Jeremy Project Associate 64,295 CY	Baker, Priscilla	Professional Lecturer			
Rustia, Roman Professional Lecturer 66,300 CY Hanson, Jeremy Project Associate 64,295 CY	Ignosh, John	Professional Lecturer		69,911	CY
Hanson, Jeremy Project Associate 64,295 CY	Mitchem, Charles	Professional Lecturer		72,660	CY
	Rustia, Roman	Professional Lecturer		66,300	CY
Ling, Erin Sr Project Associate 64,610 CY	Hanson, Jeremy	Project Associate		64,295	
	Ling, Erin	Sr Project Associate		64,610	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
<u>Administration</u>				
Grant, Alan	Administrative Professor	Dean	278,500	CY
Barlow, Christopher	Professional Lecturer		74,460	CY
Christian, Mary	Professional Lecturer		109,150	CY
Ebel, Elizabeth	Professional Lecturer		59,295	CY
Evans, Brandi	Professional Lecturer		51,000	CY
Gehrt, Dennis	Professional Lecturer		101,724	CY
Gill, Susan	Professional Lecturer		51,000	CY
Glidden, Dorothy	Professional Lecturer		92,700	CY
Kleiber, Stephen	Professional Lecturer		127,477	CY
Mahdu, Samantha	Professional Lecturer		62,730	CY
Perkins, Dedreia	Professional Lecturer		61,200	CY
Wood, April	Professional Lecturer		61,200	CY
<u>Extension</u>				
Jones, Edwin	Administrative Professor		213,750	CY
Sutphin, Cathy	Professional Associate Prof		123,002	CY
Baughman, Sarah	Research Assistant Professor		100,459	CY
Seibel, George	Instructor		65,319	CY
Grisso, Robert	Administrative Lecturer		152,111	CY
DeBord, Karen	Professional Lecturer		89,400	CY
Hunnings, Joseph	Professional Lecturer		101,810	CY
Johnson, Lonnie	Professional Lecturer	District Director	114,750	CY
Lambur, Michael	Professional Lecturer		122,700	CY
Scott, Brigitte	Project Associate		67,542	CY
Information Technology	Ĺ			
Crawford, Mark	Professional Lecturer		68,446	CY
Flinchum, Randy	Professional Lecturer		61,180	CY
Kelly, Sarah	Professional Lecturer		51,873	CY
Magana, Isaac	Professional Lecturer		47,940	CY
Robinson, Patrick	Professional Lecturer		89,621	CY
Shetrone, Scott	Professional Lecturer		58,754	CY
Sumner, Mark	Professional Lecturer		69,026	CY
Vines, Neal	Professional Lecturer		153,650	CY
<u>Research</u>				
Mostaghimi, Saied	Administrative Professor	Associate Dean and Endowed Professor	240,700	CY
Jellison, Jody	Professor		162,000	CY
Dudek, Nancy	Professional Lecturer		62,710	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>/</u> Appt
College Farm				
Paulette, Dwight	Senior Research Associate		95,816	CY
Crop and Soil Environm	ental Sciences			
Abaye, Azenegashe	Professor		111,241	CY
Daniels, Walter	Professor	Endowed Professor	164,394	RE12
Eick, Matthew	Professor		102,650	CY
Ervin, Erik	Professor		118,092	CY
Evanylo, Gregory	Professor		115,885	CY
Goatley, James	Professor		106,196	CY
Griffey, Carl	Professor	Endowed Professor	132,431	CY
Hagedorn, Charles	Professor		134,719	CY
Hodges, Steven	Professor		132,278	CY
Saghai-Maroof, Mohammad	Professor		147,932	CY
Thomason, Wade	Professor		115,005	CY
Thompson, Tommy	Professor	Department Head	196,100	CY
Zipper, Carl	Professor		102,164	CY
Berry, Duane	Associate Professor		84,396	CY
Fike, John	Associate Professor		84,872	CY
Galbraith, John	Associate Professor		90,555	CY
Maguire, Rory	Associate Professor		95,985	CY
Tracy, Benjamin	Associate Professor		91,218	CY
Xia, Kang	Associate Professor		97,950	AY
Malla, Subas	Research Scientist		55,188	CY
Badgley, Brian	Assistant Professor		80,307	AY
Fukao, Takeshi	Assistant Professor		80,307	AY
Li, Song	Assistant Professor		81,400	AY
Steele, Meredith	Assistant Professor		80,307	AY
Stewart, Ryan	Assistant Professor		82,307	AY
Chen, Chaoqi	Postdoctoral Associate		32,000	CY
Hussain, Rana Muhammad	Postdoctoral Associate		40,800	CY
Zhang, Bo	Research Assistant Professor		81,900	CY
Zhang, Xunzhong	Research Assistant Professor		57,161	CY
Bendfeldt, Eric	Professional Lecturer		82,927	CY
Hardiman, Thomas	Professional Lecturer		58,923	CY
Holler, Tammy	Professional Lecturer		48,500	CY
Moore, Valerie	Professional Lecturer		41,500	CY
Stewart, Jennifer	Professional Lecturer		35,000	CY
Burger, Julia	Research Associate		26,481	CY
Clevinger, Elizabeth	Research Associate		43,050	CY
Haering, Kathryn	Research Associate		23,483	CY
Hokanson, Elizabeth	Research Associate		49,629	CY
Koropchak, Sara	Research Associate		49,199	CY
Krenz, Robert	Research Associate		36,050	CY
Liu, Limei	Research Associate		44,741	CY
Rosso, Maria	Research Associate		44,529	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Thomas, Steven	Research Associate		70,338	CY
Beck, Michel	Senior Research Associate		26,821	CY
Brooks, Wynse	Senior Research Associate		55,432	CY
Conta, Jay	Senior Research Associate		76,953	CY
Orndorff, Zenah	Senior Research Associate		31,925	CY
Severson, Erik	Senior Research Associate		60,265	CY
Shang, Chao	Senior Research Associate		68,569	CY
Dairy Science				
Akers, Robert	Professor	Department Head and Endowed Professor	175,000	CY
Hanigan, Mark	Professor	Endowed Professor	126,907	AY
James, Robert	Professor		110,231	CY
Knowlton, Katharine	Professor	Endowed Professor	120,364	CY
Corl, Benjamin	Associate Professor		103,800	AY
Kanevsky, Isis	Associate Professor		94,411	AY
Petersson-Wolfe, Christina	Associate Professor		92,465	CY
Cockrum, Rebecca	Assistant Professor		80,750	AY
Daniels, Kristy	Assistant Professor		94,500	AY
Ferreira, Gonzalo	Assistant Professor		81,641	AY
Castro Marquez, Juan	Postdoctoral Associate		41,300	CY
Ray, Partha	Postdoctoral Associate		42,539	CY
Winston, David	Lecturer		74,736	CY
Director, Resident Instruct	<u>tion</u>			
Sumner, Susan	Administrative Professor	Associate Dean	204,000	CY
Hazelwood, Sherry	Professional Lecturer	Assistant Dean	65,300	CY
Entomology				
Brewster, Carlyle	Professor		98,145	CY
Kuhar, Thomas	Professor		110,051	CY
Miller, Dini	Professor		105,766	CY
Pfeiffer, Douglas	Professor		107,100	CY
Salom, Scott	Professor		116,475	CY
Weaver, Michael	Professor		110,955	CY
Adelman, Zachary	Associate Professor		118,137	RE12
Myles, Kevin	Associate Professor		117,068	RE12
Paulson, Sally	Associate Professor		86,485	AY
Sharakhov, Igor	Associate Professor		121,312	RE12
Onufrieva, Ksenia	Research Scientist		49,778	CY
Sharakhova, Maria	Research Scientist		55,138	CY
Anderson, Troy	Assistant Professor		83,903	AY
Marek, Paul	Assistant Professor		79,875	AY
Aryan, Azadeh	Postdoctoral Associate		42,848	CY
Jenson, Lacey	Postdoctoral Associate		48,400	CY
Samuel, Glady	Postdoctoral Associate		46,906	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Day, Eric	Professional Lecturer		67,792	CY
Lee, Peter	Professional Lecturer		42,840	CY
Stedfast, Molly	Project Associate		40,268	CY
Dodd, Howard	Research Associate		59,142	CY
Laub, Curtis	Research Associate		51,917	CY
Hipkins, Patricia	Senior Research Associate		61,487	CY
Roberts, Everett	Senior Research Associate		76,602	CY
Food Science and Techn	<u>ology</u>			
Duncan, Susan	Professor		108,068	AY
Marcy, Joseph	Professor	Department Head	176,500	CY
O'Keefe, Sean	Professor		108,362	AY
Boyer, Renee	Associate Professor		92,016	AY
Eifert, Joseph	Associate Professor		95,009	AY
Eigel, William	Associate Professor		99,400	AY
Ponder, Monica	Associate Professor		90,087	AY
Williams, Robert	Associate Professor		92,802	AY
Kuhn, David	Assistant Professor		91,533	RE10
Neilson, Andrew	Assistant Professor		82,250	AY
Stewart, Amanda	Assistant Professor		82,990	AY
Chase, Melissa	Professional Lecturer		55,567	CY
Eifert, Joell	Professional Lecturer		51,000	CY
Granata, Linda	Professional Lecturer		51,000	CY
Kelly, Molly	Professional Lecturer		68,289	CY
Wiersema, Brian	Professional Lecturer		65,790	CY
Fernandez-Plotka, Virginia	Research Associate		32,106	AY
Hurley, Eldon	Research Associate		55,755	CY
Lawson, Laura	Research Associate		43,704	CY
Taylor, Daniel	Research Associate		47,856	CY
<u>Horticulture</u>				
Beers, Eric	Professor		121,710	CY
Harris, James	Professor	Department Head	172,489	CY
Latimer, Joyce	Professor	•	111,248	CY
Niemiera, Alexander	Professor		106,777	CY
Veilleux, Richard	Professor	Endowed Professor	142,411	CY
Welbaum, Gregory	Professor		107,684	CY
Clark, Susan	Associate Professor		96,853	RE10
McDuffie, Robert	Associate Professor		90,842	AY
Scoggins, Holly	Associate Professor		101,749	CY
Williams, Mark	Associate Professor		91,340	AY
Zhao, Bingyu	Associate Professor		94,559	AY
Bombarely Gomez, Aureliano	Assistant Professor		80,000	AY
O'Rourke, Megan	Assistant Professor		81,750	AY
Chanda, Bidisha	Postdoctoral Associate		42,745	CY
Liu, Yi	Postdoctoral Associate		37,100	CY

<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Leshyn, Barbara	Advanced Instructor		67,315	AY
Hessler, Alex	Instructor		56,360	CY
Close, David	Professional Lecturer		70,510	CY
Freeborn, John	Professional Lecturer		47,260	CY
Huckestein, Stephanie	Professional Lecturer		46,230	CY
Straw, Richard	Professional Lecturer		80,067	CY
Vallotton, Amber	Professional Lecturer		61,226	CY
Gugercin, Sarah	Research Associate		42,968	CY
Human Nutrition, Foods ar	<u>nd Exercise</u>			
Davy, Brenda	Professor		136,668	RE12
Davy, Kevin	Professor		166,326	RE12
Estabrooks, Paul	Professor		162,193	RE12
Liu, Dongmin	Professor		161,131	RE12
Rankin, Janet	Professor		111,428	AY
Williams, Jay	Professor		108,807	AY
Good, Deborah	Associate Professor		101,318	AY
Grange, Robert	Associate Professor		106,751	AY
Hulver, Matthew	Associate Professor	Department Head	190,500	CY
Ju, Young	Associate Professor		87,533	AY
Schmelz, Eva	Associate Professor		98,185	AY
Serrano, Elena	Associate Professor		130,601	RE12
Zoellner, Jamie	Associate Professor		131,651	RE12
Farris, Alisha	Research Scientist		60,000	CY
Misyak, Sarah	Research Scientist		65,000	CY
Osterberg, Kristin	Research Scientist		67,113	CY
Almeida, Fabio	Assistant Professor		111,665	RE12
Cheng, Zhiyong	Assistant Professor		83,199	AY
Frisard, Madlyn	Assistant Professor		83,461	AY
Harden, Samantha	Assistant Professor		80,535	AY
Hedrick, Valisa	Assistant Professor		80,535	AY
Hill, Jennie	Assistant Professor		111,388	RE12
Kraak, Vivica	Assistant Professor		82,600	AY
Rafie, Carlin	Assistant Professor		82,000	CY
Boutagy, Nabil	Postdoctoral Associate		45,000	CY
Porter, Kathleen	Postdoctoral Associate		46,640	CY
Smith, Erin	Postdoctoral Associate		45,480	CY
Wilson, Kathryn	Postdoctoral Associate		44,100	CY
McMillan, Ryan	Research Assistant Professor		68,062	CY
Cox, Heather	Advanced Instructor		71,319	AY
Girmes-Grieco, Nicolin	Advanced Instructor		63,043	AY
Selberg-Eaton, Renee	Instructor		67,465	CY
Papillon, Carol	Senior Instructor		74,543	AY
LaFalce, Amy	Professional Lecturer		43,789	CY
Rockwell, Michelle	Professional Lecturer		60,000	CY
Brock, Donna Jean	Project Associate		55,908	CY

Name_	<u>Rank</u>	Title	Recommended Salary For 2015 - 2016	Appt
Brooks, Austin	Project Associate		47,088	CY
Helms, Jennifer	Project Associate		59,400	CY
Ledlie, Meredith	Project Associate		54,896	CY
Margheim, Lynn	Project Associate		55,973	CY
Stevens, Judith	Project Associate		73,664	CY
Wall, Sarah	Project Associate		65,161	CY
Marinik, Elaina	Project Director		34,272	CY
Addington, Adele	Research Associate		58,664	CY
Wang, Aihua	Research Associate		44,133	CY
Wiedmer, Franc-Eric	Research Associate		63,630	CY
Zheng, Dongxu	Research Associate		40,119	CY
Plant Pathology, Physiolo	ony and Weed Science			
Eisenback, Jonathan	Professor		87,538	CY
Grabau, Elizabeth	Professor	Department Head	196,600	CY
Grene, Ruth	Professor	Dopartment Fload	84,351	AY
McDowell, John	Professor		144,750	RE11
Westwood, James	Professor		103,935	CY
Askew, Shawn	Associate Professor		93,628	CY
Baudoin, Antonius	Associate Professor		88,135	AY
Colla'kova', Eva	Associate Professor		106,545	RE11
Jelesko, John	Associate Professor		82,588	CY
Okumoto, Sakiko	Associate Professor		88,238	AY
Schmale, David	Associate Professor		112,557	RE10
Vinatzer, Boris	Associate Professor		110,903	RE11
Barney, Jacob	Assistant Professor		86,080	AY
Flessner, Michael	Assistant Professor		80,400	AY
Haak, David	Assistant Professor		80,400	AY
Pilot, Guillaume	Assistant Professor		90,600	RE10
Wang, Xiaofeng	Assistant Professor		80,250	AY
Atwater, Daniel	Postdoctoral Associate		41,887	CY
Clarke, Christopher	Postdoctoral Associate		44,990	CY
Jia, Xiaoyan	Postdoctoral Associate		42,845	CY
Kim, Gunjune	Postdoctoral Associate		43,160	CY
Reis Vieira, Paulo	Postdoctoral Associate		49,100	CY
Hansen, Mary	Instructor		69,729	CY
Lally, David	Project Associate		57,325	CY
Hanlon, Regina	Research Associate		46,920	CY
McCall, David	Research Associate		52,879	CY
McMaster, Nicole	Research Associate		46,938	CY
Zhang, Jiantao	Research Associate		41,928	CY
Bush, Elizabeth	Senior Research Associate		49,525	CY
Park, So Yon	Senior Research Associate		58,140	CY
Shuman, Joel	Sr Project Associate		73,852	CY
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<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
<u>Architecture</u>				
Albright, Kathryn	Professor	Program Chair, Foundation Program	102,160	AY
Breitschmid, Markus	Professor		100,075	AY
Choudhury, Salahuddin	Professor		115,830	AY
Clements, Terry	Professor		89,135	AY
Dunay, Donna	Professor	Endowed Professor	129,090	AY
Dunay, Robert	Professor	Endowed Professor and Director, Center for Design Research	213,275	CY
Emmons, Paul	Professor	Chair, WAAC PhD Program	99,200	AY
Holt, Jaan	Professor	Endowed Professor and Director, WAAC	174,050	CY
Jones, James	Professor	PhD Program Chair and Director, CHPE	102,535	AY
Piedmont-Palladino, Susan	Professor	Director, Urban Design Program, Alexandria	107,575	AY
Rodriguez-Camilloni, Humberto	Professor		98,965	AY
Rott, Hans	Professor		101,505	AY
Setareh, Mehdi	Professor		112,065	AY
Vernon, Mitzi	Professor		96,625	AY
Weiner, Frank	Professor		100,025	AY
Wheeler, Joseph	Professor		100,020	AY
de Hahn, Henri	Professor	Director, School of Architecture + Design	150,075	CY
Fenske, Lawrence	Associate Prof of Practice		66,430	AY
Zawistowski, Keith	Associate Prof of Practice		64,245	AY
Zawistowski, Marie	Associate Prof of Practice		64,245	AY
Bassett, James	Associate Professor		78,235	AY
Bork, Dean	Associate Professor		90,330	AY
Bryon, Hilary	Associate Professor		78,030	AY
Cortes, Mario	Associate Professor		77,740	AY
Dorsa, Edward	Associate Professor	Chair, Industrial Design Program	93,675	AY
Dugas, David	Associate Professor		79,150	AY
Edge, Kay	Associate Professor		80,010	AY
Ermann, Michael	Associate Professor		94,090	AY
Feuerstein, Marcia	Associate Professor		78,185	AY
Galloway, William	Associate Professor		91,380	AY
Gartner, Howard	Associate Professor		83,500	AY
Grant, Elizabeth	Associate Professor		83,345	AY
Green, William	Associate Professor		75,490	AY
Jacobson, Wendy	Associate Professor		79,735	AY
Katen, Brian	Associate Professor	Chair, Landscape Architecture Program	89,685	AY
Kelsch, Paul	Associate Professor		45,505	AY
Kennedy, Brook	Associate Professor		77,210	AY
Kim, Mintai	Associate Professor		77,050	AY
Martin, Shelley	Associate Professor		81,100	AY
McGrath, Margarita	Associate Professor		78,040	AY
McSherry, Laurel	Associate Professor	Chair, Masters Landscape Architecture Program, Alexandria	109,390	AY
Pittman, Vance	Associate Professor	Chair, Graduate Program	93,110	AY
Renard, Helene	Associate Professor		75,000	AY
Schnoedt, Heinrich	Associate Professor	Chair, Advanced Professional Program	100,920	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Sharma, Akshay	Associate Professor		38,050	AY
Tew, Gregory	Associate Professor		96,780	AY
Thompson, Steven	Associate Professor		88,960	AY
Tucker, Lisa	Associate Professor	Chair, Interior Design Program	88,475	AY
Whitney, Brad	Associate Professor		76,120	AY
Balls Huling, Lindy	Assistant Professor		69,685	AY
Bohannon, Cermetrius	Assistant Professor		71,500	AY
Doan, Patrick	Assistant Professor		72,885	AY
Heavers, Nathan	Assistant Professor		76,740	AY
Ishida, Aki	Assistant Professor		74,726	AY
King, Jonathan	Assistant Professor		81,700	AY
Wagner, Matthew	Assistant Professor		71,385	AY
Zellner Bassett, Paola	Assistant Professor		74,256	AY
Clark, David	Research Assistant Professor		68,300	AY
McGuire, Laura	Visiting Assistant Professor		59,280	AY
Schneider, Mark	Advanced Instructor		65,620	AY
Holt, Rengin	Instructor		63,260	AY
Jensen, Anders	Visiting Instructor		58,000	AY
Pieper, Ryan	Visiting Instructor		60,142	CY
Pritchett, Christopher	Visiting Instructor		65,580	AY
Sullivan, Martha	Visiting Instructor		59,722	AY
Vorster, Clive	Visiting Instructor		56,290	AY
Hollander, Henry	Professional Lecturer	Coordinator, Outreach and Alumni Relations, WAAC	66,500	CY
Lewis, Bram	Professional Lecturer		62,750	CY
Art and Art History				
Burch-Brown, Carol	Professor	Professor	106,690	AY
Concannon, Kevin	Professor	School Director	151,115	CY
Crane, David	Professor	Chair, Studio Program	102,175	AY
Van Hook, Leila	Professor	Co-Director, Material Arts Masters Program	102,930	AY
Casto, Marilyn	Associate Professor		73,635	AY
Knoblauch, Ann-Marie	Associate Professor	Assistant School Director, School of Visual Arts	92,240	AY
Moseley Christian, Michelle	Associate Professor	Chair, Art History Program	78,780	AY
Paterson, Simone	Associate Professor		78,265	AY
Standley, Eric	Associate Professor	Area Coordinator, Foundations Program	78,690	AY
Tucker, Thomas	Associate Professor		74,040	AY
Webster, Dane	Associate Professor	Director, MFA	101,100	AY
Joiner, Jeffrey	Assistant Prof of Practice		63,500	AY
Abel, Troy	Assistant Professor		68,670	AY
Blanchard, Samuel	Assistant Professor		69,950	AY
Dee, Meaghan	Assistant Professor	Program Chair, Visual Communication Design	74,000	AY
Gindlesberger, Hans	Assistant Professor		64,830	AY
Head, Travis	Assistant Professor		67,375	AY
Bannan, Diane	Advanced Instructor		46,835	AY
Rosenthal, Joy	Instructor		44,450	AY
Sim, Deborah	Instructor		56,094	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Hand, Jennifer	Visiting Instructor		46,835	AY
Choi, Dongsoo	Professional Lecturer	Creative Tech. and Computing Manager	58,000	CY
Building Construction				
Beliveau, Yvan	Professor	Department Head	190,395	AY
Thabet, Walid	Professor	Endowed Professor	101,350	AY
McCoy, Andrew	Associate Professor	Endowed Professor	94,265	AY
Mills, Thomas	Associate Professor		93,010	AY
Pearce, Annie	Associate Professor		93,330	AY
Reichard, Georg	Associate Professor		92,905	AY
Yauger, James	Assistant Prof of Practice		63,850	CY
Turkaslan Bulbul, Muhsine	Assistant Professor		85,100	AY
Ryan, Jacqueline	Professional Lecturer	Academic Advisor and Recruiter	48,700	CY
Community Design Assist	tance Center			
Gilboy, Elizabeth	Assistant Professor	Director, CDAC	75,040	CY
Browning, Lara	Project Associate		49,320	CY
Dean - Architecture				
Davis, Albert	Administrative Professor	Dean and Endowed Professor	270,500	CY
Hirt, Sonia	Professor	Associate Dean, Academic Affairs	150,000	CY
Miller, Patrick	Professor	Associate Dean, Graduate Studies and Outreach	145,050	CY
Schubert, Robert	Professor	Associate Dean, Research	160,684	CY
Harris, Carolyn	Professional Lecturer		56,375	CY
Porterfield, Christine Marie	Professional Lecturer	Human Resources Manager	69,340	CY
Simpson, Maritza	Professional Lecturer	Director, Finance and Administration	104,650	CY
Housing Research Center				
Zhao, Dong	Postdoctoral Associate		40,000	CY
Jones, Melissa	Research Associate		52,000	CY
Institute for Policy and Go	<u>overnance</u>			
Adams, Jeremy	Project Associate		66,830	CY
Lo, Suzanne	Project Associate		66,950	CY
Berinzon, Maya	Research Associate		46,500	AY
Mooney, Erin	Research Associate		60,955	CY
Dunkenberger, Mary	Sr Project Associate		90,395	CY
Lesko, Holly	Sr Project Associate		68,845	CY
Moore, John	Sr Project Associate		83,055	CY
Price-Rhodes, Melony	Sr Project Associate		88,370	CY
Myers-Lawson School of	Construction			
Fiori, Christine	Associate Prof of Practice	Associate School Director and Endowed Professor	101,763	CY
Dickerson, Deborah	Associate Professor	1 10165501	99,000	AY
Simmons, Denise	Assistant Professor		93,150	AY
Girillons, Denise	7.5515tarit i 10155501		33,130	Λı

			Recommended Salary	
<u>Name</u>	<u>Rank</u>	<u>Title</u>	For 2015 - 2016	<u>Appt</u>
Sands, Kenneth	Postdoctoral Associate		50,000	CY
Iorio, Josh	Visiting Assistant Professor		69,000	CY
Real Estate Program				
Lyles, Chelsea	Professional Lecturer	Manager of Academic Affairs and Business Operations	55,060	CY
School of Public and Inter	national Affairs			
Browder, John	Professor		108,390	AY
Cook, Brian	Professor		116,686	AY
Dunaway, Wilma	Professor		100,062	AY
Khademian, Anne	Professor	School Director	181,125	CY
Knox, Paul	Professor	University Distinguished Professor	295,756	CY
Koebel, Charles	Professor		119,227	AY
Peters, Joel	Professor		104,085	AY
Rothschild, Joyce	Professor		112,780	AY
Sanchez, Thomas	Professor		105,160	AY
Stephenson, Max	Professor	Director, VT Institute for Policy and Governance	114,830	CY
Sterett, Susan	Professor	Director, Metropolitan Institute	132,715	CY
Toal, Gerard	Professor	Associate Chair, Government and International Affairs (NCR)	121,927	AY
Ahram, Ariel	Associate Professor		86,245	AY
Bieri, David	Associate Professor		88,365	AY
Buehler, Ralph	Associate Professor		89,400	AY
Datz, Giselle	Associate Professor		86,160	AY
Dull, Matthew	Associate Professor		80,580	AY
Jensen, Laura	Associate Professor		89,400	AY
Rees, Joseph	Associate Professor	Director of Richmond Program (CPAP)	94,805	AY
Roberts, Patrick	Associate Professor	Associate Director, CPAP (NCR)	80,765	AY
Wernstedt, Kris	Associate Professor	Program Co-chair, UAP (Blacksburg and NCR)	95,040	AY
Zahm, Diane	Associate Professor	UAP Program Co-chair and Director of Undergraduate UAP Program	92,310	AY
Zhang, Yang	Associate Professor	Director, MURP Program	82,210	AY
Bukvic, Anamaria	Assistant Professor		46,565	AY
Chaves, Elisabeth	Assistant Professor		50,000	AY
Cowell, Margaret	Assistant Professor		77,800	AY
Eckerd, Adam	Assistant Professor		79,400	AY
Hall, Ralph	Assistant Professor		76,100	AY
Hankey, Steven	Assistant Professor		71,200	AY
Jordan, Sara	Assistant Professor		71,200	AY
Lemaire, Robin	Assistant Professor		72,840	AY
Misra, Shalini	Assistant Professor		77,020	AY
Nickel, Patricia	Assistant Professor		72,880	AY
Pourchot, Georgeta	Instructor	Program Director, VT and UKB Two Cities/Two Degrees Program	79,935	CY
Alex, Jaimy	Professional Lecturer	Managing Editor	58,915	CY
Offenbacker, Beth	Professional Lecturer	Associate Director, Social Media	69,666	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Metropolitan Institute				
Wells, Kathryn	Postdoctoral Associate		47,293	CY
Schilling, Joseph	Research Assistant Professor		82,000	AY
Hanff, Jessica	Project Associate	Assistant Director, Research Administration	70,790	CY
Bulka, Lauren	Research Associate		55,200	CY

Department of Athletics

<u>Name</u>	Rank	<u>Title</u>	Recommended Salar For 2015 - 2016	<u>Y</u> \ppt
Department of Athletics				
McCloskey, Sharon	Administrative Lecturer		150,000	CY
Abbott, Russell	Professional Lecturer		40,800	CY
Adair, Shelbylynn	Professional Lecturer		49,290	CY
Ballein, John	Professional Lecturer	Senior Associate Athletic Director, Football Operations	140,250	CY
Bell, Aaron	Professional Lecturer		57,320	CY
Brizendine, Michael	Professional Lecturer		71,000	CY
Brugger-McSorley, Bridget	Professional Lecturer		53,733	CY
Bryan, Anne	Professional Lecturer		44,880	CY
Burker, Megan	Professional Lecturer		71,400	CY
Caligiuri, Megan	Professional Lecturer		61,800	CY
Cantor, Charles	Professional Lecturer		62,635	CY
Chew, Isaac	Professional Lecturer		260,000	CY
Collins, LaTanya	Professional Lecturer		51,000	CY
Collins, Sean	Professional Lecturer		45,795	CY
Connolly, Ryan	Professional Lecturer		78,000	CY
Cross, Eric	Professional Lecturer		65,000	CY
Davis, Whitney	Professional Lecturer		30,700	CY
Dietter, David	Professional Lecturer		44,880	CY
Dillard, Brandon	Professional Lecturer		40,814	CY
Doolan, Keith	Professional Lecturer		57,120	CY
Eugene, Ernest	Professional Lecturer		91,800	CY
Evans, Megan	Professional Lecturer		42,349	CY
Ferguson, Jarrett	Professional Lecturer		84,456	CY
Foster, Charles	Professional Lecturer		60,650	CY
Gabbard, Thomas	Professional Lecturer		147,900	CY
Garnes, Bruce	Professional Lecturer		55,000	CY
Gilbert-Lowry, Reyna	Professional Lecturer	Associate A.D.	84,660	CY
Goforth, Michael	Professional Lecturer		104,040	CY
Gomez Fonseca, Freddy	Professional Lecturer		40,000	CY
Griesemer, Brett	Professional Lecturer		44,880	CY
Guerry, James	Professional Lecturer		41,765	CY
Gwilliam, Ford	Professional Lecturer		54,300	CY
Gwinn, Derek	Professional Lecturer		74,460	CY
Hartsook, Austin	Professional Lecturer		31,518	CY
Helms, Christopher	Professional Lecturer	Senior Assoc. Athletic Director	117,300	CY
Hoffman, David	Professional Lecturer		48,000	CY
Huss, Stephen	Professional Lecturer		56,492	CY
Jack, Gregory	Professional Lecturer		119,325	CY
Jackson, David	Professional Lecturer		85,729	CY
Jaudon, Jon	Professional Lecturer		117,870	CY
Johannigmeier, Eric	Professional Lecturer		37,740	CY
Johnson, Devin	Professional Lecturer		60,000	CY
Jones, Kevin	Professional Lecturer		60,000	CY
Kinney, Jefferson	Professional Lecturer		44,133	CY
Kolarik, Kimberly	Professional Lecturer		35,700	CY

Department of Athletics

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	\ppt
Kopp, Andrew	Professional Lecturer		62,220	CY
LaFon, Heather	Professional Lecturer		54,900	CY
Lawrence, Jimmy	Professional Lecturer		54,457	CY
Malcom, Jenna	Professional Lecturer		41,878	CY
McNeilly, Jamie	Professional Lecturer		127,500	CY
McSorley, Patrick	Professional Lecturer		49,330	CY
Miller, Justin	Professional Lecturer		49,470	CY
Mitchell, Terry	Professional Lecturer		67,320	CY
Northup, Carly	Professional Lecturer		79,050	CY
O'Brien, Angela	Professional Lecturer		49,470	CY
Old, William	Professional Lecturer		69,222	CY
Panella, Martha	Professional Lecturer		65,891	CY
Parker, Timothy	Professional Lecturer		93,840	CY
Poole, Mallory	Professional Lecturer		51,000	CY
Purnell, Frederick	Professional Lecturer		44,880	CY
Reed, Desiree	Professional Lecturer	Exec. Associate Athletic Director	210,000	CY
Reynolds, Jeffrey	Professional Lecturer		132,600	CY
Robelot, Reed	Professional Lecturer		40,077	CY
Robie, Anthony	Professional Lecturer		76,650	CY
Roccaforte, Steven	Professional Lecturer		188,700	CY
Rudd, Lisa	Professional Lecturer		113,220	CY
Sharp, Brian	Professional Lecturer		46,000	CY
Shelby, Betty	Professional Lecturer		97,299	CY
Short, Keith	Professional Lecturer		50,120	CY
Shuman, John	Professional Lecturer		50,000	CY
Smith, Clarence	Professional Lecturer		89,645	CY
Smith, David	Professional Lecturer		83,524	CY
Stockwell, Sarah	Professional Lecturer		42,767	CY
Thomas, Benjamin	Professional Lecturer		70,900	CY
Thomas, Nelson	Professional Lecturer		105,000	CY
Thomas, Steven	Professional Lecturer		71,400	CY
Underwood, Casey	Professional Lecturer		72,500	CY
Valley, Morgan	Professional Lecturer		90,000	CY
Variano, Erin	Professional Lecturer		44,880	CY
White, Daniel	Professional Lecturer		66,646	CY
Wolf, Lyle	Professional Lecturer		37,500	CY
Woodard, Robert	Professional Lecturer		94,554	CY
Woods, Jermaine	Professional Lecturer		97,299	CY
Young, Perren	Professional Lecturer		36,861	CY
Zabinsky, Jennifer	Professional Lecturer		61,200	CY
Zalewski, Paul	Professional Lecturer		45,450	CY
Zawacki-Woods, Terry	Professional Lecturer		70,000	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Accounting and Info	rmation Systems			
Barkhi, Reza	Professor	Department Head	196,882	CY
Belanger, France	Professor	Endowed Professor	197,500	AY
Brown, Robert	Professor	Endowed Professor	198,360	AY
Cloyd, C	Professor	Endowed Professor	198,209	AY
Fan, Weiguo	Professor	Endowed Professor	193,000	AY
Jenkins, James	Professor	Endowed Professor	204,692	AY
Maher, John	Professor	Endowed Professor	208,500	AY
Seago, Wilmer	Professor	Endowed Professor	207,600	AY
Sheetz, Steven	Professor		145,000	AY
Bhattacharjee, Sudip	Associate Professor	Endowed Professor	176,000	AY
Brozovsky, John	Associate Professor	Endowed Professor	154,000	AY
Salbador, Debra	Associate Professor	Endowed Professor	146,000	AY
Tegarden, David	Associate Professor		141,800	AY
Wallace, Linda	Associate Professor	Endowed Professor	140,000	AY
Almond, Lynn	Assistant Professor		73,500	AY
Beyer, Brooke	Assistant Professor		175,750	AY
Hansen, Thomas	Assistant Professor		176,200	AY
Huang, Jingjing	Assistant Professor		181,500	AY
Johnson, Eugene	Assistant Professor		175,750	AY
Oler, Mitchell	Assistant Professor		148,941	AY
Popova, Velina	Assistant Professor		158,500	AY
Stein, Sarah	Assistant Professor		178,000	AY
Wolfe, Michael	Assistant Professor		175,750	AY
Easterwood, Cintia	Advanced Instructor		77,500	AY
Martin, Eric	Instructor		74,000	AY
Ross, Dianna	Instructor		75,415	AY
Lacoste, Jean	Senior Instructor		70,500	AY
Business - Off Camp	us Instruction			
Hansson, Dana	Professional Lecturer		76,500	CY
Business Information	n Technology			
Badinelli, Ralph	Professor	Endowed Professor	136,306	AY
Cook, Deborah	Professor	Endowed Professor	139,661	AY
Ghandforoush, Parviz	Professor	Director, NOVA MBA PGM	273,819	CY
Ragsdale, Cliff	Professor	Endowed Professor	169,083	AY
Rakes, Terry	Professor	Endowed Professor	171,925	AY
Rees, Loren	Professor	Endowed Professor	191,228	AY
Russell, Roberta	Professor		129,793	AY
Taylor, Bernard	Professor	Department Head and Endowed Professor	295,327	CY
Zobel, Christopher	Professor	Endowed Professor	154,104	AY
Abrahams, Alan	Associate Professor		150,056	AY
Deane, Jason	Associate Professor		140,265	AY
Hoopes, Barbara	Associate Professor		111,198	AY
James, Tabitha	Associate Professor		140,096	AY

Name	Rank	Title	Recommended Salary For 2015 - 2016	<u>Appt</u>
Khansa, Lara	Associate Professor		158,869	AY
Major, Raymond	Associate Professor		108,452	AY
Matheson, Lance	Associate Professor		112,918	AY
Nottingham, Quinton	Associate Professor		114,938	AY
Seref, Onur	Associate Professor		152,193	AY
Wang, Gang	Associate Professor		150,009	AY
Seref, Michelle	Assistant Professor		139,700	AY
Clark, Laura	Advanced Instructor		90,010	AY
Jones, Richard	Advanced Instructor		99,843	AY
Teets, Jay	Instructor		95,400	AY
Dean of Business				
Sumichrast, Robert	Administrative Professor	Dean	475,625	CY
Nakamoto, Kent	Professor	Endowed Professor, and Associate Dean	285,267	CY
Clemenz, Candice	Administrative Assistant Prof	Associate Dean	188,883	CY
Hunnings, Wanda	Administrative Lecturer	Associate Dean	140,388	CY
Skripak, Stephen	Administrative Lecturer	Former Associate Dean	133,025	CY
Africa, Emily Anne	Professional Lecturer		54,632	CY
Ausman, Kelley	Professional Lecturer		42,840	CY
Borny, Lorraine	Professional Lecturer		47,808	AY
Camputaro, Robin	Professional Lecturer		77,303	CY
Clevenger, Jennifer	Professional Lecturer		71,208	CY
Daugherty, Richard	Professional Lecturer	Director	119,744	CY
Dickhans, James	Professional Lecturer		90,519	CY
French, Gina	Professional Lecturer		64,872	CY
Hall, Maureen	Professional Lecturer		105,855	CY
Hinders, Theresa	Professional Lecturer		68,340	CY
Loving, Jessica	Professional Lecturer		60,491	CY
Maggard, Derick	Professional Lecturer		145,727	CY
Mease, Stuart	Professional Lecturer		122,400	CY
Monday, Justin	Professional Lecturer		51,041	CY
O'Donnell, Barry	Professional Lecturer		84,160	CY
Oldham, Linda	Professional Lecturer		153,000	CY
Osborne, Mary	Professional Lecturer		83,203	CY
Ramey, Lindsey	Professional Lecturer		42,840	CY
Sheehan, Thomas	Professional Lecturer	Director	97,918	CY
Wells, Katherine	Professional Lecturer		64,134	CY
Finance, Insurance, and	l Business Law			
Hiller, Janine	Professor	Endowed Professor	139,413	AY
Kadlec, Gregory	Professor	Endowed Professor	301,820	AY
Keown, Arthur	Professor	Endowed Professor	230,194	AY
Kumar, Raman	Professor	Endowed Professor	201,674	AY
Mansi, Sattar	Professor	Endowed Professor	241,200	AY
Morgan, George	Professor	Endowed Professor	172,230	AY
Patterson, Douglas	Professor		138,954	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Pinkerton, John	Professor	Endowed Professor	162,302	AY
Singal, Vijay	Professor	Department Head and Endowed Professor	327,582	CY
Kender, Michael	Professor of Practice		108,449	AY
Klock, Derek	Associate Prof of Practice		83,738	AY
Billingsley, Randall	Associate Professor		126,228	AY
Bonomo, Vittorio	Associate Professor		89,143	AY
Easterwood, John	Associate Professor		141,648	AY
Malone, Jason	Assistant Prof of Practice		75,338	AY
Anginer, Deniz	Assistant Professor		194,703	AY
Lel, Ugur	Assistant Professor		197,595	AY
Wang, Tong	Assistant Professor		194,319	AY
Xu, Jin	Assistant Professor		216,315	AY
Celiker, Umut	Visiting Assistant Professor		190,000	AY
Hart, Brian	Instructor		65,216	AY
Hospitality and Tourism	<u>Management</u>			
Khan, Mahmood	Professor		141,379	AY
McGehee, Nancy	Professor	Department Head	202,861	CY
Murrmann, Suzanne	Professor		115,420	AY
Perdue, Richard	Professor	Endowed Professor	189,125	AY
Uysal, Muzaffer	Professor		140,440	AY
Parsons, Richard	Associate Prof of Practice		81,000	AY
Magnini, Vincent	Associate Professor		125,929	AY
Singal, Manisha	Associate Professor		119,663	AY
Kang, Hee Jung	Assistant Professor		98,669	AY
Soulek, Kimberly	Assistant Professor		104,311	AY
Xiang, Zheng	Assistant Professor		125,285	AY
Feiertag, Howard	Lecturer		37,739	AY
Sexton, James	Lecturer		95,051	CY
<u>Management</u>				
Carlson, Kevin	Professor	Department Head	217,876	CY
Gnyawali, Devi	Professor	Endowed Professor	164,785	AY
Markham, Steven	Professor	Endowed Professor	160,800	AY
Seth, Anju	Professor	Endowed Professor	245,869	AY
Wokutch, Richard	Professor	Endowed Professor	188,763	AY
Arthur, Jeffrey	Associate Professor		139,360	AY
Beal, Daniel	Associate Professor		156,000	AY
Cobb, Anthony	Associate Professor		125,999	AY
Hatfield, Donald	Associate Professor		137,166	AY
Smith, Wanda	Associate Professor		111,527	AY
Tegarden, Linda	Associate Professor		122,477	AY
Zimmerman, Ryan	Associate Professor		171,500	AY
Bruyaka, Olga	Assistant Professor		138,777	AY
Hunt, Richard	Assistant Professor		139,750	AY
Junkunc, Marc	Assistant Professor		76,300	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Thakur Wernz, Pooja	Assistant Professor		145,306	AY
Townsend, David	Assistant Professor		139,750	AY
Ward Bartlett, Anna	Assistant Professor		140,500	AY
Deck, Margaret	Instructor		47,046	AY
Carlson, Kimberly	Professional Instructor		51,000	CY
Kennedy, Reed	Professional Lecturer		95,835	CY
<u>Marketing</u>				
Brinberg, David	Professor	Endowed Professor	206,267	AY
Herr, Paul	Professor	Endowed Professor and Department Head	285,440	CY
Sirgy, Mack	Professor		136,863	AY
Collins, Brian	Professor of Practice		119,343	AY
Wertalik, Donna	Associate Prof of Practice		89,721	AY
Bagchi, Rajesh	Associate Professor		203,889	AY
Coupey, Eloise	Associate Professor		137,091	AY
Weaver, Kimberlee	Associate Professor		135,107	AY
Jiang, Juncai	Assistant Professor		156,376	AY
May, Frank	Assistant Professor		160,853	AY
Sundar, Aparna	Visiting Assistant Professor		130,107	AY
Sundie, Jill	Visiting Assistant Professor		139,673	AY
Reilly, Thomas	Instructor		55,849	AY

Name	Rank	Title	Recommended Salar For 2015 - 2016	<u>Y</u> Appt
Advanced Research In				
Rahman, Saifur	Professor	Director and Endowed Professor	244,983	CY
Krimgold, Frederick	Research Associate Professor		136,537	CY
Pipattanasomporn, Manisa	Research Associate Professor		108,840	AY
Kuzlu, Murat	Research Assistant Professor		67,500	AY
Teklu, Yonael	Professional Lecturer		80,572	AY
Balitsky, Philip	Research Associate		63,260	CY
Hagerman, George	Senior Research Associate		79,197	CY
Aerospace and Ocean	Engineering			
Brown, Alan	Professor		125,667	AY
Canfield, Robert	Professor		152,937	AY
Devenport, William	Professor		224,439	RE12
Kapania, Rakesh	Professor	Endowed Professor	157,598	AY
Ma, Lin	Professor		117,520	AY
Paterson, Eric	Professor	Department Head and Endowed Professor	214,763	CY
Raj, Pradeep	Professor		126,880	AY
Roy, Christopher	Professor		188,699	RE12
Schetz, Joseph	Professor	Endowed Professor	216,624	AY
Woolsey, Craig	Professor		119,601	AY
Black, Jonathan	Associate Professor		109,725	AY
Farhood, Mazen	Associate Professor		96,902	AY
McCue-Weil, Leigh	Associate Professor		105,000	AY
Neu, Wayne	Associate Professor		106,184	AY
Patil, Mayuresh	Associate Professor		92,362	AY
Philen, Michael	Associate Professor		104,913	AY
Seidel, Gary	Associate Professor		101,140	AY
Sultan, Cornel	Associate Professor		106,115	AY
Borgoltz, Aurelien	Research Associate Professor		103,500	CY
Locatelli, Davide	Research Scientist		77,236	CY
Adams, Colin	Assistant Professor		89,010	AY
Choi, Seongim	Assistant Professor		89,010	AY
Lowe, Kevin	Assistant Professor		100,401	AY
Srinivasan, Bhuvana	Assistant Professor		91,080	AY
Wang, Kevin	Assistant Professor		93,150	AY
Xiao, Heng	Assistant Professor		86,940	AY
Im, Dong	Postdoctoral Associate		54,630	CY
Kuester, Matthew	Postdoctoral Associate		56,925	CY
Luder, Alton	Postdoctoral Associate		65,000	CY
Alexander, William	Research Assistant Professor		86,000	CY
Intaratep, Nanyaporn	Research Assistant Professor		84,870	CY
Burchett, Amy	Professional Lecturer		79,050	CY
Meyers, Timothy	Research Associate		52,785	CY
Biomedical Engineering	ng and Mechanics			
Al-Haik, Marwan	Professor		114,948	AY
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<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Batra, Romesh	Professor	Endowed Professor	275,288	RE12
Case, Scott	Professor		188,376	CY
Cramer, Mark	Professor		98,189	AY
Davalos, Rafael	Professor		165,000	RE12
Dillard, David	Professor	Endowed Professor	154,425	AY
Duke, John	Professor		123,523	AY
Duma, Stefan	Professor	Department Head and Endowed Professor	374,929	CY
Gabler, Hampton	Professor		187,754	CY
Hajj, Muhammad	Professor	Associate Dean	194,500	CY
Ragab, Saad	Professor		120,620	AY
Singh, Mahendra	Professor	Endowed Professor	147,103	AY
Stremler, Mark	Professor		171,972	CY
VandeVord, Pamela	Professor		134,075	AY
Robertson, John	Research Professor		86,000	AY
De Vita, Raffaella	Associate Professor		124,200	AY
Hendricks, Scott	Associate Professor		95,600	AY
Jung, Sunghwan	Associate Professor		101,939	AY
Lee, Yong	Associate Professor		90,895	AY
Ross, Shane	Associate Professor		108,652	AY
Socha, John	Associate Professor		113,674	AY
Staples, Anne	Associate Professor		93,904	AY
Thangjitham, Surot	Associate Professor		85,385	AY
Van Dyke, Mark	Associate Professor		140,312	RE12
Abaid, Nicole	Assistant Professor		97,795	AY
Bickford, Lissett	Assistant Professor		93,230	AY
Boreyko, Jonathan	Assistant Professor		93,300	AY
Cao, Guohua	Assistant Professor		96,480	AY
Hanna, James	Assistant Professor		89,100	AY
Rowson, Steven	Assistant Professor		128,796	RE12
Verbridge, Scott	Assistant Professor		93,580	AY
Cemazar, Jaka	Postdoctoral Associate		47,150	CY
Howes, Meghan Kathleen	Postdoctoral Associate		61,250	CY
Kanitkar, Akanksha	Postdoctoral Associate		42,000	CY
Kusano, Kristofer	Postdoctoral Associate		52,000	CY
Lin, Enqiang	Postdoctoral Associate		50,000	CY
Shi, Ruchao	Postdoctoral Associate		32,632	CY
Kemper, Andrew	Research Assistant Professor		100,000	CY
Chang, Tsu-Sheng	Instructor		74,200	AY
Grohs, Jacob	Instructor		60,000	AY
Lord, James	Instructor		64,500	AY
Pendar, Hodjat	Instructor		62,100	AY
Siburt, Paul	Lecturer		94,717	CY
Lawless, Monika	Professional Lecturer		100,667	CY
McCord, Marshal	Professional Lecturer		71,246	CY
Sentelle, Theresa	Professional Lecturer		52,679	CY
Stanley, Amanda	Professional Lecturer		55,441	CY

Name	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Tomlin, Timothy	Professional Lecturer	1100	81,966	CY
McNally, Craig	Research Associate		58,500	CY
mortany, craig	. 100001.017 100001010		33,000	.
Chemical Engineering				
Achenie, Luke	Professor		139,901	AY
Baird, Donald	Professor	Endowed Professor	209,703	RE10
Cox, David	Professor	Department Head	220,132	CY
Davis, Richey	Professor		121,866	AY
Ducker, William	Professor		158,140	AY
Kiran, Erdogan	Professor		158,497	AY
Liu, Yih-An	Professor	Alumni Distinguished Professor and Endowed Professor	176,612	AY
Lu, Chang	Professor		185,783	RE12
Rajagopalan, Padmavathy	Professor	Endowed Professor	172,584	RE11
Rim, Peter	Visiting Professor	Endowed Professor	78,457	AY
Goldstein, Aaron	Associate Professor		109,859	AY
Karim, Ayman	Associate Professor		109,200	AY
Martin, Stephen	Associate Professor		95,640	AY
Huang, Jianhua	Research Scientist		54,355	CY
Xin, Hongliang	Assistant Professor		95,800	AY
Ma, Xianfeng	Postdoctoral Associate		46,350	CY
Seo, Dongjin	Postdoctoral Associate		52,525	CY
Bortner, Michael	Instructor		79,000	AY
Zhu, Xiaoru	Research Associate		51,438	CY
Civil and Environmenta	l Engineering			
Boardman, Gregory	Professor		120,067	AY
Brandon, Thomas	Professor		115,907	AY
Charney, Finley	Professor		126,014	AY
Dietrich, Andrea	Professor		123,077	AY
Easterling, William	Professor	Department Head and Endowed Professor	236,269	CY
Edwards, Marc	Professor	Endowed Professor	251,517	CY
Filz, George	Professor	Endowed Professor	192,285	RE12
Flintsch, Gerardo	Professor		164,837	RE12
Green, Russell	Professor		122,051	AY
Hobeika, Antoine	Professor		142,051	AY
Knocke, William	Professor	Endowed Professor	206,768	AY
Leon, Roberto	Professor	Endowed Professor	169,347	AY
Little, John	Professor	Endowed Professor	129,142	AY
Marr, Linsey	Professor		121,390	AY
Moglen, Glenn	Professor		175,066	RE12
Pruden-Bagchi, Amy	Professor		132,005	AY
Rakha, Hesham	Professor	Endowed Professor	182,589	RE12
Roberts-Wollmann, Carin	Professor		120,876	AY
Rodriguez-Marek, Adrian	Professor		113,964	AY
Sinha, Sunil	Professor		115,173	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Taylor, John	Professor		147,584	RE12
Trani, Antonio	Professor		120,930	AY
Vikesland, Peter	Professor		121,305	AY
Wang, Linbing	Professor		122,581	AY
Widdowson, Mark	Professor		151,513	RE11
de la Garza, Jesus	Professor	Endowed Professor	192,295	RE12
Dove, Joseph	Associate Prof of Practice		87,700	AY
Abbas, Montasir	Associate Professor		100,337	AY
Dymond, Randel	Associate Professor	Director	111,669	AY
Gallagher, Daniel	Associate Professor		101,387	AY
Garvin, Michael	Associate Professor		105,119	AY
Hancock, Kathleen	Associate Professor		107,629	AY
He, Zhen	Associate Professor		100,092	AY
Heaslip, Kevin	Associate Professor		100,500	AY
Irish, Jennifer	Associate Professor		137,722	RE12
Mauldon, Matthew	Associate Professor		94,700	AY
Moen, Cristopher	Associate Professor		100,664	AY
Murray-Tuite, Pamela	Associate Professor		100,550	AY
Strom, Kyle	Associate Professor		96,500	AY
Godrej, Adil	Research Associate Professor		122,144	CY
Dai, Dongjuan	Research Scientist		60,600	CY
Leng, Weinan	Research Scientist		55,017	CY
Parks, Jeffrey	Research Scientist		67,184	CY
Wang, Fei	Research Scientist		60,600	CY
Katz, Bryan	Assistant Prof of Practice		48,200	CY
Mouras, Victoria	Assistant Prof of Practice		94,200	CY
Scardina, Robert	Assistant Prof of Practice		71,340	CY
Young, Kevin	Assistant Prof of Practice		85,730	CY
Eatherton, Matthew	Assistant Professor		97,053	AY
Hester, Erich	Assistant Professor		94,421	AY
Koutromanos, Ioannis	Assistant Professor		92,500	AY
Stark, Nina	Assistant Professor		92,000	AY
Ziotopoulou, Aikaterini	Assistant Professor		91,000	AY
Guron, Giselle Kristi	Postdoctoral Associate		40,916	CY
Lee, Mari	Postdoctoral Associate		41,200	CY
Li, Tao	Postdoctoral Associate		42,421	CY
Munir, Mariya	Postdoctoral Associate		41,200	CY
Prussin, Aaron	Postdoctoral Associate		48,000	CY
Vanden Berge, Daniel	Postdoctoral Associate		52,000	CY
Vejerano, Eric	Postdoctoral Associate		46,733	CY
Wu, Yaoxing	Postdoctoral Associate		43,680	CY
Xie, Mingjie	Postdoctoral Associate		42,848	CY
Olgun, Celal	Research Assistant Professor		84,930	CY
Zhang, Husen	Research Assistant Professor		76,500 61,775	AY
Lattimer, Kara	Instructor		61,775	CY
Barrett, Sharon	Professional Lecturer		93,840	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Cranwell, Lindy	Professional Lecturer		59,415	CY
Laskowski, Kathleen	Professional Lecturer		91,800	CY
Long, Courtney	Professional Lecturer		53,040	CY
Smiley, Elizabeth	Professional Lecturer		67,514	CY
Alvi, Dongmei	Research Associate		71,926	CY
Kumar, Saurav	Research Associate		59,513	CY
Mokarem, David	Research Associate		89,544	CY
Post, Harold	Research Associate		79,133	CY
Hinze, Nicolas	Senior Research Associate		76,428	CY
Zhou, Ning	Sr Project Associate		88,945	CY
Computer Science				
Balci, Osman	Professor		117,157	AY
Bowman, Douglas	Professor		122,064	AY
Cameron, Kirk	Professor		150,833	AY
Chen, Ing Ray	Professor		121,808	AY
Edwards, Stephen	Professor		112,466	AY
Feng, Wu-Chun	Professor	Endowed Professor	199,478	RE12
Fox, Edward	Professor		173,481	RE11
Heath, Lenwood	Professor		128,447	AY
Kafura, Dennis	Professor		151,345	AY
Lou, Wenjing	Professor		181,152	RE12
Murali, T	Professor		136,249	AY
North, Christopher	Professor		135,165	AY
Ramakrishnan, Narendran	Professor	Endowed Professor	204,022	AY
Ribbens, Calvin	Professor		146,425	CY
Ryder, Barbara	Professor	Department Head and Endowed Professor	233,548	CY
Sandu, Adrian	Professor		138,033	AY
Shaffer, Clifford	Professor		114,986	AY
Tatar, Deborah	Professor		111,879	AY
Watson, Layne	Professor		154,838	AY
Feng, Annette	Senior Research Scientist		69,000	CY
Hauck, Peter	Senior Research Scientist		87,550	CY
Harrison, Steven	Associate Prof of Practice		101,860	AY
Back, Godmar	Associate Professor		96,224	AY
Butt, Ali	Associate Professor		124,232	AY
Cao, Yang	Associate Professor		96,619	AY
Gracanin, Denis	Associate Professor		97,966	AY
Lu, Chang Tien	Associate Professor		108,724	AY
McCrickard, Donald	Associate Professor		98,720	AY DE10
Onufriev, Alexey	Associate Professor		114,076	RE10
Perez-Quinonez, Manuel	Associate Professor Associate Professor		115,656	AY AY
Tilevich, Eli Yao, Danfeng	Associate Professor Associate Professor	Endowed Professor	101,400 108,946	AY
Zhang, Liqing	Associate Professor	Endowed Fibressor	95,990	AY
Zhang, Liqing Zhang, Jinghe	Research Scientist		65,000	CY
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Huang, Bert	Assistant Professor		97,290	AY
Jung, Changhee	Assistant Professor		95,712	AY
Lee, Dongyoon	Assistant Professor		95,712	AY
Luther, Kurt	Assistant Professor		93,150	AY
Prakash, Bodicherla Aditya	Assistant Professor		96,865	AY
Raghvendra, Sharath	Assistant Professor		95,220	AY
Anandakrishnan, Ramamoorthy	Postdoctoral Associate		39,187	CY
Ritz, Anna	Postdoctoral Associate		57,751	CY
Singh, Gurjot	Postdoctoral Associate		60,000	CY
Tandon, Ravi	Research Assistant Professor		110,000	CY
Ellis, Margaret	Instructor		45,000	AY
Barnette, Noah	Senior Instructor		77,282	AY
McQuain, William	Senior Instructor		68,484	AY
Arthur, Terry	Lecturer		48,620	CY
Bradford, Libby	Lecturer		55,964	CY
Brogdon, Laurie	Professional Lecturer		61,200	CY
Farris, Gregory	Professional Lecturer		48,589	CY
Marcum, Robert	Professional Lecturer		66,300	CY
Stefanescu, Razvan	Research Associate		55,105	CY
Butler, Patrick	Senior Research Associate		145,000	CY
Tolokh, Igor	Senior Research Associate		47,000	CY
Wang, Hao	Senior Research Associate		72,446	CY
Sathre, Paul	Sr Project Associate		60,000	CY
<u>Dean - Engineering</u>				
Benson, Richard	Administrative Professor	Dean	424,500	CY
Lesko, John	Administrative Professor	Associate Dean	198,900	CY
Watford, Bevlee	Administrative Professor	Associate Dean	214,825	CY
Westman, Erik	Professor		166,284	CY
Mu, Mingkai	Research Scientist		82,000	CY
Shen, Zhiyu	Research Scientist		82,000	CY
Zhang, Xuning	Research Scientist		82,000	CY
Zhang, Wenli	Research Assistant Professor		83,052	CY
Martens, Bradley	Administrative Lecturer		101,187	CY
Nelson, Edward	Administrative Lecturer	Associate Dean	183,355	CY
Nystrom, Lynn	Administrative Lecturer		108,620	CY
Scales, Glenda	Administrative Lecturer	Associate Dean	150,688	CY
Amelink, Catherine	Professional Lecturer		76,561	CY
Arnold-Christian, Susan	Professional Lecturer		52,634	CY
Boone, Christi	Professional Lecturer		66,553	CY
Langford, Vicki	Professional Lecturer		49,387	CY
Long, Linda	Professional Lecturer		80,164	CY
Phillips, Jeffrey	Professional Lecturer		64,043	CY
Pokorski, Dale	Professional Lecturer		89,321	CY
Sanderlin, Nicole	Professional Lecturer		66,638	CY
Spangler, Dewey	Professional Lecturer		68,051	CY

Name	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Cvetkovic, Igor	Senior Research Associate		79,329	CY
Gilham, David	Senior Research Associate		77,514	CY
Shaw, Teresa	Senior Research Associate		110,686	CY
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Engineering Education				
Adams, Stephanie	Professor	Department Head	218,632	CY
Lohani, Vinod	Professor		104,562	AY
Riley, Donna	Professor		110,000	AY
Butler, William	Associate Prof of Practice		67,370	AY
Connor, Jeffrey	Associate Professor		72,737	AY
Goff, Richard	Associate Professor		93,578	AY
Gregg, Michael	Associate Professor		82,573	AY
Knott, Tamara	Associate Professor		94,554	AY
McNair, Elizabeth	Associate Professor		47,979	AY
Paretti, Marie	Associate Professor		101,280	AY
Reid, Kenneth	Associate Professor		100,395	AY
Knight, David	Assistant Professor		91,831	AY
Matusovich, Holly	Assistant Professor		94,353	AY
Carrico, Cheryl	Postdoctoral Associate		23,409	CY
Hodges, Kimberly	Instructor		49,938	AY
Wang, Junqiu	Instructor		61,509	AY
Lo, Jenny	Senior Instructor		70,868	AY
Elmore, Jessica	Professional Lecturer		50,490	CY
McGlothlin Lester, Marlena	Professional Lecturer		59,819	CY
Nathan, Anika	Professional Lecturer		74,359	CY
Smith, Natasha	Professional Lecturer		59,819	CY
Ward, Alexandra	Professional Lecturer		36,720	CY
Electrical and Compute	r Engineering			
Agah, Masoud	Professor		170,000	AY
Athanas, Peter	Professor		137,805	AY
Beex, Aloysius	Professor		106,140	AY
Boroyevich, Dushan	Professor	Endowed Professor	272,051	RE12
Broadwater, Robert	Professor		108,746	AY
Buehrer, Richard	Professor		134,465	AY
Clauer, C	Professor		200,997	RE12
Earle, Gregory	Professor		140,326	AY
Ha, Dong	Professor		106,485	AY
Hou, Yiwei	Professor	Endowed Professor	182,667	AY
Hsiao, Michael	Professor		139,650	RE10
Jones, Mark	Professor		118,783	AY
Lai, Jih	Professor	Endowed Professor	160,324	AY
Lee, Fred	Professor	University Distinguished Professor	381,236	RE12
Lester, Luke	Professor	Department Head	230,870	CY
Martin, Thomas	Professor		118,876	AY
Mili, Lamine	Professor		102,826	AY

Name	Rank	Title	Recommended Salary For 2015 - 2016	Appt
Ngo, Khai	Professor		139,694	AY
Orlowski, Mariusz	Professor	Endowed Professor	181,387	AY
Park, Jung-Min	Professor		151,831	RE12
Plassmann, Paul	Professor		170,214	CY
Poon, Ting Chung	Professor		103,338	AY
Ravindran, Binoy	Professor		117,112	AY
Reed, Jeffrey	Professor	Endowed Professor	79,122	AY
Riad, Sedki	Professor		124,427	AY
Safaai-Jazi, Ahmad	Professor		103,198	AY
Scales, Wayne	Professor		129,864	AY
Shukla, Sandeep	Professor		119,462	AY
Stilwell, Daniel	Professor		156,438	RE12
Tront, Joseph	Professor	Endowed Professor	153,447	RE12
Wang, Anbo	Professor	Endowed Professor	254,579	RE12
Wang, Yue	Professor	Endowed Professor	197,711	RE12
Xuan, Jianhua	Professor		120,140	AY
Sweeney, Dennis	Professor of Practice		116,962	CY
Weimer, Daniel	Research Professor		151,086	CY
Abbott, Amos	Associate Professor		97,315	AY
Bailey, Scott	Associate Professor		107,766	AY
Baker, Joseph	Associate Professor		135,958	RE12
Baumann, William	Associate Professor		101,215	AY
Burgos, Rolando	Associate Professor		123,496	AY
Centeno, Virgilio	Associate Professor		105,697	AY
Clancy, Thomas	Associate Professor	Endowed Professor	190,000	RE12
De La Reelopez, Jaime	Associate Professor		145,137	CY
Ellingson, Steven	Associate Professor		105,600	AY
Guido, Louis	Associate Professor		110,406	AY
Hudait, Mantu	Associate Professor		106,589	AY
Lindner, Douglas	Associate Professor		92,482	AY
MacKenzie, Allen	Associate Professor		105,158	AY
Manteghi, Majid	Associate Professor Associate Professor		102,459	AY AY
Nazhandali, Leyla Odendaal, Willem	Associate Professor		115,000 99,344	AY
Patterson, Cameron	Associate Professor		101,253	AY
Paul, JoAnn	Associate Professor		95,782	AY
Ruohoniemi, John	Associate Professor		156,366	RE12
Schaumont, Patrick	Associate Professor		54,724	AY
Tam, Kwa Sur	Associate Professor		88,167	AY
Wyatt, Chris	Associate Professor		99,394	AY
Xu, Yong	Associate Professor		100,827	AY
Yang, Yaling	Associate Professor		50,995	AY
Dietrich, Carl	Research Associate Professor		98,602	CY
Carstens, Justin	Research Scientist		59,740	CY
Thurairajah, Brentha	Research Scientist		62,993	CY
Batra, Dhruv	Assistant Professor		98,327	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Dhillon, Harpreet Singh	Assistant Professor		95,919	AY
Koh, Kwang-Jin	Assistant Professor		94,792	AY
Li, Qiang	Assistant Professor		93,930	AY
Parikh, Devi	Assistant Professor		98,098	AY
Saad, Walid	Assistant Professor		101,132	AY
Wang, Chao	Assistant Professor		96,698	AY
Yu, Guoqiang	Assistant Professor		90,117	AY
Zeng, Haibo	Assistant Professor		96,541	AY
Zhu, Yizheng	Assistant Professor		92,049	AY
Abdel-Rahman, Mohammad	Postdoctoral Associate		56,000	CY
Choe, Jung Muk	Postdoctoral Associate		48,000	CY
Deshpande, Kshitija	Postdoctoral Associate		58,995	CY
Imana, Eyosias Yoseph	Postdoctoral Associate		48,000	CY
Legout, Vincent	Postdoctoral Associate		56,774	CY
Ma, Qingqing	Postdoctoral Associate		45,000	CY
Wang, Dong	Postdoctoral Associate		46,348	CY
Xu, Zhonghua	Postdoctoral Associate		57,741	CY
Barbalace, Antonio	Research Assistant Professor		77,700	CY
Hartinger, Michael	Research Assistant Professor		75,000	CY
Palmieri, Roberto	Research Assistant Professor		72,073	CY
Cooper, Kristie	Instructor		72,825	AY
McPherson, David	Instructor		64,440	AY
Pendleton, Leslie	Instructor		83,726	CY
Thweatt, Jason	Instructor		60,684	AY
Atkins, Kathy	Professional Lecturer		141,251	CY
Brewer, Mary	Professional Lecturer		49,987	CY
Erwin, Abbey	Professional Lecturer		45,563	CY
Harris, John	Professional Lecturer		91,182	CY
Leber, Donald	Professional Lecturer		81,927	CY
Lineberry, Robert	Professional Lecturer		86,327	CY
McKagen, Branden	Professional Lecturer		62,005	CY
Nealy, J	Professional Lecturer		58,911	CY
Snyder, Jason	Project Associate		47,355	CY
Marojevic, Vuk	Research Associate		64,303	CY
Peluso, Sebastiano	Research Associate		55,283	CY
Sadini, Marina	Research Associate		46,350	CY
Yu, Zhihao	Research Associate		51,438	CY
Ashry, Islam	Senior Research Associate		52,000	CY
Industrial and Systems	Engineering			
Camelio, Jaime	Professor	Endowed Professor	194,865	RE12
Casali, John	Professor	Endowed Professor	233,973	RE12
Kleiner, Brian	Professor	Director, MLSoC and Endowed Professor in ISE	207,770	CY
Nussbaum, Maury	Professor	Endowed Professor	221,364	RE12
Sarin, Subhash	Professor	Endowed Professor	181,157	RE11
Sturges, Robert	Professor		119,309	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Taylor, Gaylon	Professor	Department Head and Endowed Professor	264,977	CY
Triantis, Konstantinos	Professor	Endowed Professor	136,397	AY
Van Aken, Eileen	Professor		186,914	CY
Bish, Douglas	Associate Professor		97,276	AY
Bish, Ebru	Associate Professor		95,192	AY
Ellis, Kimberly	Associate Professor		109,710	AY
Gabbard, Joseph	Associate Professor		129,932	RE12
Harmon, Lawrence	Associate Professor		115,696	AY
Koelling, Charles	Associate Professor		112,425	AY
Kong, Zhenyu	Associate Professor		98,284	AY
Nachlas, Joel	Associate Professor		109,142	AY
Rahmandad, Hazhir	Associate Professor		91,440	AY
Shewchuk, John	Associate Professor		95,050	AY
Taaffe, Michael	Associate Professor		108,667	AY
Kim, Sun Wook	Research Scientist		62,000	CY
Agnew, Michael	Assistant Professor		92,132	AY
Chen, Xi	Assistant Professor		90,558	AY
Ghaffarzadegan, Navid	Assistant Professor		90,603	AY
Jin, Ran	Assistant Professor		90,624	AY
Lau, Nathan	Assistant Professor		90,200	AY
Moran, Diego	Assistant Professor		89,000	AY
Wernz, Christian	Assistant Professor		120,949	RE12
Hosseinichimeh, Niyousha	Postdoctoral Associate		41,911	CY
Lee, Kichol	Research Assistant Professor		78,604	CY
Wells, Lee	Research Assistant Professor		66,080	AY
Cherbaka, Natalie	Instructor		66,300	AY
Van Curen, Paula	Professional Lecturer		48,098	CY
Volkmar, Susan	Professional Lecturer		78,943	CY
Bailey, Elijah	Research Associate		42,128	CY
Fuller, Sheldon	Research Associate		93,454	CY
Kelley, Gregory	Research Associate		76,199	CY
Redfearn, Brady	Research Associate		60,000	CY
Elmore, Bethany	Senior Research Associate		62,689	CY
Emero, Michael	Senior Research Associate		53,336	CY
Howard, Mark	Senior Research Associate		107,333	CY
Hubbard, Elbert	Senior Research Associate		36,278	CY
Jaeger, Robert	Senior Research Associate		78,265	CY
Materials Science and E	Engineering			
Clark, David	Professor	Department Head	238,391	CY
Farkas, Diana	Professor		170,726	RE12
Hendricks, Robert	Professor		166,668	CY
Lu, Guo Quan	Professor		123,143	AY
Lu, Peizhen	Professor		112,732	AY
Pickrell, Gary	Professor		169,757	RE12
Reynolds, William	Professor		115,688	AY

<u>Name</u>	Rank	Title	Recommended Salary For 2015 - 2016	Appt
Viehland, Dwight	Professor	Endowed Professor	175,078	AY
Shuart, Mark	Research Professor		199,700	CY
McGinnis, Sean	Associate Prof of Practice		91,670	AY
Staley, Thomas	Associate Prof of Practice		80,340	AY
Aning, Alexander	Associate Professor		98,272	AY
Asryan, Levon	Associate Professor		99,211	AY
Corcoran, Sean	Associate Professor		97,629	AY
Druschitz, Alan	Associate Professor		102,502	AY
Foster, Earl	Associate Professor		97,290	AY
Murayama, Mitsuhiro	Associate Professor		100,483	AY
Whittington, Abby	Associate Professor		97,335	AY
Li, Jie-Fang	Research Associate Professor		74,672	CY
Suchicital, Carlos	Research Associate Professor		94,048	CY
Homa, Daniel	Research Scientist		73,163	CY
Tang, Zhi	Postdoctoral Associate		42,156	CY
Wang, Yaojin	Postdoctoral Associate		44,505	CY
Burgoyne, Christine	Instructor		41,662	AY
Folz, Diane	Senior Research Associate		86,916	CY
Mechanical Engineering	I			
Ahmadian, Mehdi	Professor	Endowed Professor	204,816	RE12
Battaglia, Francine	Professor		118,740	AY
Burdisso, Ricardo	Professor		125,795	AY
Diller, Thomas	Professor		140,307	AY
Fuller, Christopher	Professor	Endowed Professor	239,812	RE12
Furukawa, Tomonari	Professor		119,979	AY
Haghighat, Alireza	Professor		189,933	AY
Kennedy, John	Professor		169,040	AY
Kurdila, Andrew	Professor	Endowed Professor	168,833	AY
Lattimer, Brian	Professor		195,884	RE12
Nelson, Douglas	Professor		120,742	AY
Ng, Wing Fai	Professor	Endowed Professor	235,725	RE12
O'Brien, Walter	Professor	Endowed Professor	271,806	RE12
Parker, Robert	Professor	Endowed Professor	241,800	CY
Paul, Mark	Professor		148,995	RE11
Pitchumani, Ranga	Professor	Endowed Professor	261,896	RE12
Priya, Shashank	Professor	Endowed Professor	272,000	CY
Sandu, Corina	Professor		125,000	AY
Tafti, Danesh	Professor	Endowed Professor and Interim Department Head	265,516	RE12
von Spakovsky, Michael	Professor		141,094	AY
Pierson, Mark	Associate Prof of Practice		114,634	CY
Vick, Linda	Associate Prof of Practice		79,136	CY
Bayandor, Javid	Associate Professor		96,968	AY
Behkam, Bahareh	Associate Professor		100,582	AY
Bohn, Jan Helge	Associate Professor		100,623	AY
Dancey, Clinton	Associate Professor		112,322	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Ellis, Michael	Associate Professor	Endowed Professor	102,008	AY
Ferris, John	Associate Professor		145,535	RE12
Hardy, Warren	Associate Professor		114,487	AY
Huxtable, Scott	Associate Professor		100,403	AY
Kasarda, Mary	Associate Professor		101,772	AY
Kochersberger, Kevin	Associate Professor		112,721	AY
Kornhauser, Alan	Associate Professor		90,453	AY
Leonessa, Alexander	Associate Professor		102,436	AY
Mueller, Rolf	Associate Professor		109,308	AY
Qiao, Rui	Associate Professor		120,350	AY
Roan, Michael	Associate Professor	Endowed Professor	123,882	AY
Southward, Steve	Associate Professor		110,160	AY
Taheri, Saied	Associate Professor		120,859	AY
Vick, Brian	Associate Professor		87,706	AY
West, Robert	Associate Professor		96,683	AY
Wicks, Alfred	Associate Professor		107,325	AY
Williams, Christopher	Associate Professor	Endowed Professor	127,852	AY
Zuo, Lei	Associate Professor		135,500	AY
Pandit, Jaideep	Research Scientist		72,100	CY
Papenfuss, Cory	Research Scientist		70,551	CY
Yan, YongKe	Research Scientist		55,628	CY
Hin, Celine	Assistant Professor		92,872	AY
Liu, Yang	Assistant Professor		93,000	AY
Mirzaeifar, Reza	Assistant Professor		96,800	AY
Nain, Amrinder	Assistant Professor		96,232	AY
Tarazaga, Pablo	Assistant Professor		95,620	AY
Tian, Zhiting	Assistant Professor		95,900	AY
Chopra, Anuj	Postdoctoral Associate		40,789	CY
Joshi, Keyur	Postdoctoral Associate		50,000	CY
Kang, Min Gyu	Postdoctoral Associate		42,014	CY
Kundu, Souvik	Postdoctoral Associate		43,365	CY
Tea, Eric	Postdoctoral Associate		40,879	CY
Wu, Congcong	Postdoctoral Associate		42,014	CY
Zheng, Xiaojia	Postdoctoral Associate		42,014	CY
Verbrugge, Ross	Professional Lecturer		80,988	CY
Williams, Melissa	Professional Lecturer		82,488	CY
Kennedy, Ronald	Project Director		70,995	CY
Chen, Bo	Research Associate		52,983	CY
Goode, Brian	Research Associate		53,000	CY
Howell, Margaret	Research Associate		71,196	CY
Maurya, Deepam	Research Associate		49,311	CY
Peterson, Andrew	Senior Research Associate		53,000	CY
Summers, Patrick	Senior Research Associate		65,000	CY

			Recommended Salary	
<u>Name</u>	<u>Rank</u>	<u>Title</u>	For 2015 - 2016	<u>Appt</u>
Karmis, Michael	Professor	Endowed Professor	226,500	RE12
Luttrell, Gerald	Professor	Endowed Professor	216,000	CY
Yoon, Roe	Professor	University Distinguished Professor and Endowed Professor	283,788	RE12
Karfakis, Mario	Associate Professor		90,700	AY
Luxbacher, Kramer	Associate Professor		135,700	RE12
Schafrik, Steven	Research Associate Professor		96,800	CY
Ripepi, Nino	Assistant Professor		121,485	RE12
Sarver, Emily	Assistant Professor		92,900	AY
Gupta, Nikhil	Postdoctoral Associate		49,155	CY
Keles, Cigdem	Postdoctoral Associate		52,247	CY
Pan, Lei	Postdoctoral Associate		44,665	CY
Jong, Edmund	Research Assistant Professor		64,170	CY
Biviano, Angelo	Instructor		44,860	AY
Cook Marshall, Crystal	Professional Lecturer		60,000	CY
Radcliffe, Margaret	Professional Lecturer		73,505	CY
Schlosser, Charles	Professional Lecturer		63,372	CY
Craynon, John	Project Director		139,815	CY
Bratton, Robert	Senior Research Associate		103,285	CY
Gilliland, Ellen	Senior Research Associate		51,860	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Biological Sciences				
Benfield, Ernest	Professor	Associate Department Head	138,000	CY
Buikema, Arthur	Professor	Alumni Distinguished Professor and Endowed Professor	132,594	AY
Falkinham, Joseph	Professor		96,100	AY
Hilu, Khidir	Professor		102,100	AY
Jensen, Roderick	Professor		120,700	AY
Li, Liwu	Professor		173,600	RE12
Moore, Ignacio	Professor		95,000	AY
Nilsen, Erik	Professor		103,500	AY
Opell, Brent	Professor		103,836	AY
Phillips, John	Professor		100,000	AY
Popham, David	Professor		116,000	AY
Sible, Jill	Professor	Assistant Provost for Undergraduate Education	164,138	CY
Stevens, Ann	Professor		100,000	AY
Tyson, John	Professor	University Distinguished Professor	256,354	CY
Walters, Jeffrey	Professor	Endowed Professor	195,197	RE11
Webster, Jackson	Professor		113,500	AY
Winkel, Brenda	Professor	Department Head	164,790	CY
Barrett, John	Associate Professor		84,000	AY
Belden, Lisa	Associate Professor		85,500	AY
Capelluto, Daniel	Associate Professor		80,000	AY
Cimini, Daniela	Associate Professor		86,500	AY
Finkielstein, Carla	Associate Professor		86,000	AY
Hawley, Dana	Associate Professor		84,000	AY
Lawrence, Christopher	Associate Professor		98,664	AY
Lazar, Maria	Associate Professor		97,288	RE11
Melville, Stephen	Associate Professor		81,090	AY
Scharf, Birgit	Associate Professor		83,000	AY
Schubot, Florian	Associate Professor		80,000	AY
Tholl, Dorothea	Associate Professor		86,000	AY
Walker, Richard	Associate Professor		108,503	AY
Yang, Zhaomin	Associate Professor		84,150	AY
Blanc, Lori	Research Scientist		57,667	CY
Chen, Katherine	Research Scientist		47,001	CY
Chen, Keqiang	Research Scientist		51,000	CY
Geng, Shuo	Research Scientist		46,000	CY
Kraykivskiy, Pavel	Research Scientist		55,037	CY
Sokol, Eric	Research Scientist		40,000	CY
Zhou, Changhe	Research Scientist		50,000	CY
Brown, Bryan	Assistant Professor		77,520	AY
Carey, Cayelan	Assistant Professor		77,500	AY
Hauf, Silke	Assistant Professor		77,010	AY
Kojima, Shihoko	Assistant Professor		78,540	AY
McGlothlin, Joel	Assistant Professor		74,460	AY
Nimchuk, Zachary	Assistant Professor		77,000	AY
Sewall, Kendra	Assistant Professor		76,500	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Strickland, Michael	Assistant Professor		76,500	AY
Tokuhisa, James	Assistant Professor		57,363	AY
Akcay, Caglar	Postdoctoral Associate		45,100	CY
Davies, Scott	Postdoctoral Associate		41,000	CY
Hughey, Myra	Postdoctoral Associate		42,230	CY
Koppen, Jenny	Postdoctoral Associate		41,000	CY
Smith, Jennifer	Postdoctoral Associate		45,000	CY
Thomason, Courtney	Postdoctoral Associate		45,000	CY
Evans, Jackson	Advanced Instructor		61,344	AY
Seyler, Richard	Advanced Instructor		52,873	AY
Hogan, Eric	Instructor		46,115	AY
Via, Jerry	Instructor	Assistant Dean	100,001	CY
Voshell, Stephanie	Instructor		45,500	CY
Watkinson, Jonathan	Instructor		44,000	AY
Lipscomb, Mary	Senior Instructor		59,852	AY
Rosenzweig, Michael	Senior Instructor		59,435	AY
Meisel, Kacey	Professional Lecturer		34,500	CY
Rodgers, Katherine	Professional Lecturer		47,940	CY
Gotoh, Tetsuya	Research Associate		60,049	CY
Hildreth, Sherry	Senior Research Associate		45,900	CY
<u>Chemistry</u>				
Carlier, Paul	Professor		151,900	AY
Crawford, Daniel	Professor		122,000	AY
Dorn, Harry	Professor		154,000	AY
Esker, Alan	Professor		101,000	AY
Etzkorn, Felicia	Professor		92,500	AY
Gandour, Richard	Professor		132,200	AY
Gibson, Harry	Professor		145,000	AY
Hanson, Brian	Professor		96,400	AY
Kingston, David	Professor	University Distinguished Professor	187,653	AY
Marand, Herve	Professor	Chivolony Blothiguioned Professor	117,500	AY
Merola, Joseph	Professor		167,100	AY
Moore, Robert	Professor		153,502	AY
Morris, John	Professor		125,545	AY
Riffle, Judy	Professor		160,500	AY
Tanko, James	Professor	Department Head	162,000	CY
Turner, Sam	Research Professor	Doparanon Froda	98,731	AY
Amateis, Patricia	Associate Professor		70,110	AY
Deck, Paul	Associate Professor		79,160	AY
Madsen, Louis	Associate Professor		95,000	AY
Santos, Webster	Associate Professor		118,600	AY
Tissue, Brian	Associate Professor		79,950	AY
Troya, Diego	Associate Professor		87,000	AY
Valeyev, Eduard	Associate Professor		117,500	AY
Yee, Gordon	Associate Professor		88,440	AY
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Name	Rank	Title	Recommended Salary For 2015 - 2016	Annt
<u> </u>	Research Scientist	riue		Appt CY
Ashraf-Khorassani, Mehdi			74,773	AY
Orler, Edward	Research Scientist		54,500	CY
Wong, Dawn	Research Scientist Assistant Professor		49,508 83,000	AY
Grove, Tijana	Assistant Professor			AY
Josan, Jatinder	Assistant Professor		77,300	AY
Liu, Guoliang	Assistant Professor		82,000 82,000	AY
Matson, John Morris, Amanda	Assistant Professor		82,000	AY
Bobade, Sachin	Postdoctoral Associate		40,800	CY
Dai, Yumin	Postdoctoral Associate Postdoctoral Associate		42,230	CY
	Postdoctoral Associate Postdoctoral Associate			CY
Latif, Abdul			40,000	
Maza, William	Postdoctoral Associate		40,287	CY
Pashikanti, Srinath	Postdoctoral Associate		41,777	CY
Verma, Astha	Postdoctoral Associate		40,170	CY
Yao, ZhongKe	Postdoctoral Associate		42,540	CY
Zhang, Jinmei	Postdoctoral Associate		31,200	CY
Berg, Michael	Advanced Instructor		50,274	AY
Bump, Maggie	Advanced Instructor		48,861	AY
Eddleton, Jeannine	Advanced Instructor		53,500	AY
Arachchige, Shamindri	Instructor		44,609	AY
Bell, Thomas	Instructor	Asst Chair for Research and Special Projects	94,000	CY
Long, Victoria	Instructor		48,800	AY
Slebodnick, Carla	Instructor		58,000	AY
Brodkin, Claudia	Professional Lecturer		50,008	CY
Dalton, Michelle	Professional Lecturer		48,450	CY
Shanaiah, Narasimhamurthy	Professional Lecturer		68,371	CY
Dean of Science				
Chang, Lay	Administrative Professor	Dean	303,000	CY
Heflin, James	Administrative Professor	Associate Dean	148,300	CY
Bieri, Anna-Marion	Assistant Prof of Practice	Director of Science, Technology and Law Program	84,500	AY
Zhang, Zhiyang	Postdoctoral Associate		40,780	CY
Ozcan, Ibrahim	Research Assistant Professor		101,185	CY
Smith, Byron	Instructor		55,000	AY
Tu, Hsiao-Wei	Instructor		46,000	AY
Long, Gary	Administrative Lecturer	Associate Dean	114,695	CY
Morgan, John	Administrative Lecturer	Associate Dean and Director	179,112	CY
Sanders, Janet	Administrative Lecturer	Assistant Dean	137,000	CY
Simpkins, Melissa	Professional Lecturer	Business Operations Manager	65,000	CY
Tollin, Craig	Professional Lecturer		44,000	CY
<u>Economics</u>				
Ashley, Richard	Professor		117,000	AY
Haller, Hans	Professor		149,500	AY
Salehi-Isfahani, Djavad	Professor		125,500	AY
Spanos, Aris	Professor	Endowed Professor	153,324	AY
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Name_	Rank	Title	Recommended Salary For 2015 - 2016	Appt
Tideman, Thorwald	Professor	Department Head	137,700	AY
Bahel, Eric	Associate Professor	Bepartment read	102,840	AY
Ball, Sheryl	Associate Professor	Associate Department Head	116,500	AY
Cothren, Richard	Associate Professor	Associate Department Head	92,330	AY
	Associate Professor			AY
Ge, Suqin	Associate Professor		119,500	
Tsang, Kwok			105,000	AY
Li, Guo	Research Scientist		63,257	CY
Dominiak, Adam	Assistant Professor		102,600	AY
Macieira, Joao	Assistant Professor		86,500	AY
Yang, Zhou	Assistant Professor		89,690	AY
Gebremariam, Gebremeskel	Advanced Instructor		70,100	AY
Trost, Steven	Advanced Instructor		95,530	AY
Simundza, Dan	Instructor		62,700	AY
<u>Geosciences</u>				
Bodnar, Robert	Professor	University Distinguished Professor and Endowed Professor	214,236	AY
Dove, Patricia	Professor	University Distinguished Professor and Endowed Professor	241,608	AY
Eriksson, Kenneth	Professor		110,000	AY
Hochella, Michael	Professor	University Distinguished Professor	188,842	AY
Hole, John	Professor		106,000	AY
King, Scott	Professor		116,000	AY
Law, Richard	Professor		108,000	AY
Ross, Nancy	Professor	Department Head	161,160	CY
Schreiber, Madeline	Professor		112,000	AY
Spotila, James	Professor		105,000	AY
Tracy, Robert	Professor	Associate Department Head	113,800	AY
Xiao, Shuhai	Professor		185,500	AY
Chermak, John	Associate Prof of Practice	Associate Professor of Practice	65,970	AY
Burbey, Thomas	Associate Professor		91,200	AY
Weiss, Robert	Associate Professor		110,000	RE11
Zhou, Ying	Associate Professor		84,000	AY
Chapman, Martin	Research Associate Professor		85,764	AY
Adam, Claudia	Research Scientist		52,500	CY
Spencer, Elinor	Research Scientist		46,297	CY
Stocker, Michelle	Research Scientist		50,000	CY
Xu, Jie	Research Scientist		47,277	CY
Yang, Yi	Research Scientist		48,000	CY
Caddick, Mark	Assistant Professor		81,300	AY
Gazel, Esteban	Assistant Professor		84,300	AY
Gill, Benjamin	Assistant Professor		81,300	AY
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Michel, Frederick	Assistant Professor		81,800	AY
Nesbitt, Sterling	Assistant Professor		81,000	AY
Romans, Brian	Assistant Professor		84,300	AY
Dragovic, Besim	Postdoctoral Associate		40,000	CY
Prince, Philip	Postdoctoral Associate		35,200	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Schwarzenbach, Esther	Postdoctoral Associate		49,462	CY
Johnson, Neil	Advanced Instructor		52,324	AY
Dunson, James	Professional Lecturer		56,000	CY
Beale, Jacob	Research Associate		51,000	CY
Fedele, Luca	Senior Research Associate		54,621	CY
Han, Nizhou	Senior Research Associate		50,000	CY
Zhao, Jing	Senior Research Associate		50,857	CY
<u>Mathematics</u>				
Adjerid, Slimane	Professor		108,000	AY
Ball, Joseph	Professor		78,500	AY
Beattie, Christopher	Professor		103,004	AY
Borggaard, Jeffrey	Professor		120,000	AY
Brown, Ezra	Professor	Alumni Distinguished Professor and Endowed Professor	121,684	AY
Burns, John	Professor	Endowed Professor	226,191	AY
Day, Martin	Professor		104,400	AY
De Sturler, Eric	Professor		126,000	AY
Embree, Mark	Professor		160,000	AY
Floyd, William	Professor		109,221	AY
Gugercin, Serkan	Professor		104,000	AY
Haskell, Peter	Professor	Department Head	165,000	CY
Iliescu, Traian	Professor		104,000	AY
Kim, Jong	Professor		100,050	AY
Klaus, Martin	Professor		92,089	AY
Kohler, Werner	Professor		126,185	AY
Lin, Tao	Professor		104,000	AY
Linnell, Peter	Professor		101,000	AY
Renardy, Michael	Professor	Endowed Professor	164,459	AY
Renardy, Yuriko	Professor	Endowed Professor	128,236	AY
Rogers, Robert	Professor	Associate Department Head	120,812	AY
Rossi, John	Professor		125,000	AY
Russell, David	Professor		168,102	AY
Shimozono, Mark	Professor		116,000	AY
Sun, Shu Ming	Professor		106,000	AY
Turner, James	Professor		117,477	AY
Ciupe, Mihaela	Associate Professor		90,000	AY
Elgart, Alexander	Associate Professor		42,500	AY
Loehr, Nicholas	Associate Professor		100,000	AY
Mihalcea, Constantin	Associate Professor		89,000	AY
Norton, Anderson	Associate Professor		97,000	AY
Wapperom, Peter	Associate Professor		77,000	AY
Yue, Pengtao	Associate Professor		84,000	AY
Zietsman, Lizette	Associate Professor		93,000	AY
Chung, Julianne	Assistant Professor		77,500	AY
Chung, Matthias	Assistant Professor		78,000	AY
Glatt-Holtz, Nathan	Assistant Professor		78,500	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Johnson, Estrella	Assistant Professor	<u></u>	74,500	AY
Orr, Daniel	Assistant Professor		72,000	AY
Wawro, Megan	Assistant Professor		79,500	AY
Hart, Heath	Advanced Instructor		45,000	AY
Hurdus, Jessica	Advanced Instructor		51,500	AY
McQuain, Margaret	Advanced Instructor		48,500	AY
Savel'ev, Evgeny	Advanced Instructor		48,100	AY
Schmale, Jessica	Advanced Instructor		46,184	AY
Smith, Deborah	Advanced Instructor		46,126	AY
Arnold, Rachel	Instructor		44,500	AY
Asfaw, Teffera	Instructor		35,810	AY
Chung, Myungsuk	Instructor		36,388	AY
Clemons, Joshua	Instructor		40,000	AY
Dillon, Geoffrey	Instructor		35,700	AY
Gildersleeve, Nathan	Instructor		35,702	AY
Hanks, Lucy	Instructor		44,000	AY
Heitzman, Michael	Instructor		36,720	AY
Jasso-Hernandez, Edna	Instructor		35,700	AY
McIntyre, Stephen	Instructor		35,700	AY
Miller, Shelley	Instructor		35,700	AY
Ordonez-Delgado, Bartleby	Instructor		37,332	AY
-	Instructor		35,700	AY
Rappold, Erika				AY
Robbins, Nicholas	Instructor		41,000 36,720	AY
Saenz Maldonado, Edgar	Instructor			
Ufferman, Eric	Instructor		38,036	AY
Wilson, Jason	Instructor		39,500	AY
Wong, Jeremy	Instructor		35,500	AY
Agud, Diane	Senior Instructor		50,000	AY
Anderson, Susan	Senior Instructor		58,000	AY
Bourdon, Terri	Senior Instructor		79,000	AY
Hagen, Susan	Senior Instructor		52,500	AY
Shugart, Eileen	Senior Instructor		61,113	AY
Stephens, Catherine	Senior Instructor		48,500	AY
Adkins, Emily	Professional Lecturer		35,650	AY
Gruss, Richard	Professional Lecturer		105,030	CY
Reilly, William	Professional Lecturer		85,678	CY
Sibol, Alison	Professional Lecturer		35,700	AY
Physics_				
Heremans, Jean	Professor		90,000	AY
Huber, Patrick	Professor		102,000	AY
Link, Jonathan	Professor		94,000	AY
Minic, Djordje	Professor		93,000	AY
Mun, Seong	Professor	Director, Arlington Innovation Center	240,000	AY
Piilonen, Leo	Professor	Department Head and Endowed Professor	167,913	CY
Pitt, Mark	Professor		100,000	AY
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Name	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	Annt
<u> </u>	Professor	<u>Title</u>		<u>Appt</u> AY
Pleimling, Michel	Professor		111,000 91,254	AY
Sharpe, Eric	Professor	Accepiate Department Hood		CY
Simonetti, John	Professor	Associate Department Head	118,554	AY
Tauber, Uwe	Professor		108,500	AY
Vogelaar, Robert Arav, Nahum	Associate Professor		101,243 91,000	AY
	Associate Professor		91,000	AY
Khodaparast, Giti Park, Kyungwha	Associate Professor		83,000	AY
				AY
Robinson, Hans Scarola, Vito	Associate Professor Associate Professor		76,873 86,000	AY
Soghomonian, Victoria	Associate Professor		72,827	AY
Takeuchi, Tatsu	Associate Professor		88,000	AY
Lee, Seung-Joo	Research Scientist		50,000	CY
Rountree, Steven	Research Scientist		68,379	CY
Anderson, Lara	Assistant Professor		80,000	AY
Cheng, Shengfeng	Assistant Professor		77,600	AY
Farrah, Duncan	Assistant Professor		76,943	AY
Gray, James	Assistant Professor		80,000	AY
Horiuchi, Shunsaku	Assistant Professor		76,432	AY
Mariani, Camillo	Assistant Professor		80,000	AY
Mather, William	Assistant Professor		77,143	AY
Nguyen, Vinh	Assistant Professor		75,022	AY
Petty, Sara	Assistant Professor		55,500	CY
Tao, Chenggang	Assistant Professor		74,000	AY
Butzin, Nicholas	Postdoctoral Associate		53,000	CY
Gao, Xin	Postdoctoral Associate		45,000	CY
George, Deepu	Postdoctoral Associate		41,100	CY
Harris, Kathryn	Postdoctoral Associate		49,500	CY
Hor, Yuenkeung	Postdoctoral Associate		44,000	CY
Jen, Chun-Min	Postdoctoral Associate		45,000	CY
Kalousis, Leonidas	Postdoctoral Associate		48,000	CY
Liu, Guilin	Postdoctoral Associate		50,500	CY
Magill, Brenden	Postdoctoral Associate		41,616	CY
Park, Jaewon	Postdoctoral Associate		53,000	CY
Regmi, Chola	Postdoctoral Associate		45,448	CY
Vanegas Forero, David	Postdoctoral Associate		43,000	CY
Wong, Kenneth	Research Assistant Professor	Associate Dean Graduate School and NVC Director	154,125	CY
Khan, Almas	Instructor	, lossolate Boari Graduate Corloor and TV C Birotor	50,000	AY
Papavasiliou, Kriton	Instructor		50,200	AY
Robinson, Alma	Instructor		75,000	CY
Ankowski, Artur	Research Associate		45,000	CY
Wang, Xiaolong	Research Associate		47,025	CY
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<u>Psychology</u>				
Bell, Martha Ann	Professor		130,000	AY
Clum, George	Professor		122,000	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Deater-Deckard, Kirby	Professor		153,000	AY
Geller, E	Professor	Alumni Distinguished Professor and Endowed Professor	165,947	AY
Jones, Russell	Professor		108,500	AY
Ollendick, Thomas	Professor	University Distinguished Professor	257,875	RE10
Stephens, Robert	Professor	Department Head	194,666	RE12
Winett, Richard	Professor	Endowed Professor	162,711	AY
Axsom, Danny	Associate Professor		74,000	AY
Dunsmore, Julie	Associate Professor		85,500	AY
Foti, Roseanne	Associate Professor		90,000	AY
Germana, Joseph	Associate Professor		58,900	AY
Harrison, David	Associate Professor		88,000	AY
Harvey, Robert	Associate Professor		66,900	AY
Hauenstein, Neil	Associate Professor		79,000	AY
Kim-Spoon, Jungmeen	Associate Professor		126,667	RE12
Panneton, Robin	Associate Professor		89,000	AY
Scarpa-Friedman, Angela	Associate Professor		92,000	AY
Scarpa-Friedman, Bruce	Associate Professor		74,082	AY
White, Susan	Associate Professor		120,666	RE12
Cooper, Lee	Clinical Associate Professor	Director	103,000	CY
Braun, Michael	Assistant Professor		76,600	AY
Cate, Anthony	Assistant Professor		78,850	AY
Diana, Rachel	Assistant Professor		82,000	AY
Richey, John	Assistant Professor		82,000	AY
White, Bradley	Assistant Professor		79,500	AY
Kahn, Rachel	Postdoctoral Associate		43,860	CY
Bill, Eileen	Research Assistant Professor		61,322	AY
Harrison, Patti	Instructor		55,000	AY
Hoffman, Kurt	Senior Instructor	Director of Undergraduate Studies	71,500	AY
<u>Statistics</u>				
Birch, Jeffrey	Professor		98,940	AY
Smith, Eric	Professor	Department Head	139,230	AY
Vining, Gordon	Professor		129,780	AY
Woodall, William	Professor		154,000	AY
Du, Pang	Associate Professor		94,163	AY
Ferreira, Marco	Associate Professor		108,097	AY
Guo, Feng	Associate Professor		101,999	AY
Hong, Yili	Associate Professor		94,500	AY
House, Leanna	Associate Professor		103,000	AY
Kim, Inyoung	Associate Professor		100,000	AY
Leman, Scott	Associate Professor		104,100	AY
Terrell, George	Associate Professor		82,215	CY
Vance, Eric	Research Associate Professor	Director	102,256	AY
Driscoll, Anne	Assistant Prof of Practice		63,345	AY
Robertson Evia, Jane	Assistant Prof of Practice		64,250	AY
Deng, Xinwei	Assistant Professor		93,700	AY

			Recommended Salary	
<u>Name</u>	<u>Rank</u>	<u>Title</u>	For 2015 - 2016	<u>Appt</u>
Li, Jie	Assistant Professor		87,488	AY
Tang, Runlong	Assistant Professor		88,375	AY
Wu, Xiaowei	Assistant Professor		89,313	AY
Zhu, Hongxiao	Assistant Professor		91,200	AY
Franck, Christopher	Research Assistant Professor		98,676	CY
Tavera, Haydee	Instructor		51,250	AY
Eddy, Celia	Research Associate		50,000	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Biomedical Science				
Ahmed, S	Professor	Department Head	194,788	CY
Ehrich, Marion	Professor		192,118	CY
Inzana, Thomas	Professor	Endowed Professor	202,626	CY
Lindsay, David	Professor		127,027	CY
Meng, Xiang-Jin	Professor	University Distinguished Professor and Endowed Professor	212,000	CY
Schurig, Gerhardt	Professor		239,280	CY
Smith, Stephen	Professor		114,545	CY
Sponenberg, Dan	Professor		153,762	CY
Sriranganathan, Nammalwar	Professor		133,151	CY
Wilcke, Jeffrey	Professor	Endowed Professor	145,072	CY
Zajac, Anne	Professor		118,597	CY
Eng, Ludeman	Associate Professor		161,592	CY
Freeman, Larry	Associate Professor		123,603	CY
Huckle, William	Associate Professor		103,161	CY
Klein, Bradley	Associate Professor		103,598	CY
LeRoith, Tanya	Associate Professor		118,484	CY
Nanthakumar, Nadarajah	Associate Professor		94,843	AY
Saunders, Geoffrey	Associate Professor		93,192	AY
Smith, Bonnie	Associate Professor		102,154	CY
Subbiah, Elankumaran	Associate Professor		125,426	RE12
Yuan, Lijuan	Associate Professor		125,889	RE12
Zimmerman, Kurt	Associate Professor		120,767	CY
Lahmers, Kevin	Clinical Associate Professor		116,213	CY
Cao, Dianjun	Research Scientist		52,628	CY
Li, Guohua	Research Scientist		48,700	CY
Li, Wen	Research Scientist		64,382	CY
Subramaniam, Sakthivel	Research Scientist		50,470	CY
Thimmasandra Narayanappa, Athmaram	Research Scientist		47,124	CY
Allen, Irving	Assistant Professor		122,451	RE12
Caswell, Clayton	Assistant Professor		89,651	AY
He, Jia-Qiang	Assistant Professor		91,053	AY
Luo, Xin	Assistant Professor		91,454	AY
Theus, Michelle	Assistant Professor		124,268	RE12
Boes, Katie	Clinical Assistant Professor		103,056	CY
Cecere, Thomas	Clinical Assistant Professor		111,553	CY
Hafez, Shireen	Clinical Assistant Professor		78,961	AY
James-Yi, Sandra	Clinical Assistant Professor		105,083	CY
Weinstein, Nicole	Clinical Assistant Professor		105,610	CY
Matzinger, Shannon	Postdoctoral Associate		45,681	CY
Overend, Christopher	Postdoctoral Associate		47,174	CY
Rogers, Adam	Postdoctoral Associate		43,466	CY
Sooryanarain, Harini	Postdoctoral Associate		41,100	CY
Tian, Debin	Postdoctoral Associate		43,466	CY
Wen, Ke	Postdoctoral Associate		43,656	CY

Name	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Bandara, Aloka	Research Assistant Professor	· ·	53,148	CY
Dai, Rujuan	Research Assistant Professor		66,600	CY
Green, Julie	Research Assistant Professor		69,924	CY
Kenney, Scott	Research Assistant Professor		65,691	CY
Erdogan, Eda	Research Associate		47,792	CY
Jain-Gupta, Neeta	Senior Research Associate		48,000	CY
Academic Affairs				
Byrnes, Meghan	Instructor		85,698	CY
Gilley, Alexandra	Instructor		69,345	AY
Kegley, Melanie	Professional Lecturer		63,036	CY
Wells, Jill	Professional Lecturer		46,000	AY
Dean - Veterinary Medic				
Avery, Roger	Administrative Professor	Senior Associate Dean	218,519	CY
Clarke, Cyril	Administrative Professor	Dean	277,000	CY
Hylton, April	Administrative Lecturer		116,416	CY
Absher, Christine	Professional Lecturer		87,718	CY
Graham, Douglas	Professional Lecturer		104,246	CY
Jobst, Peter	Professional Lecturer		90,168	CY
Equine Medical Ancillar	v			
Furr, Martin	Professor	Endowed Professor	123,491	CY
Sullins, Kenneth	Professor		180,734	CY
Adams, Morton	Clinical Assistant Professor		179,750	CY
Brown, James	Clinical Assistant Professor		148,505	CY
Duerbeck, Cathy	Administrative Lecturer		67,200	CY
Equine Medical Center				
Barrett, Jennifer	Associate Professor	Endowed Professor	140,030	CY
Desrochers, Anne	Clinical Assistant Professor		108,394	CY
Erskine, Michael	Administrative Lecturer		165,000	CY
Large Animal Clinical S				
Buechner-Maxwell, Virginia	Professor		117,164	CY
Hodgson, David	Professor	Department Head	202,738	CY
Pelzer, Kevin	Professor		129,238	CY
Pleasant, Robert	Professor		145,125	CY
Swecker, William	Professor		154,194	CY
Whittier, William	Professor		149,851	CY
Byron, Christopher	Associate Professor		132,765	CY
Clark-Deener, Sherrie	Associate Professor		127,204	CY
Dahlgren, Linda	Associate Professor		115,540	CY
McKenzie, Harold	Associate Professor		133,694	CY
Scarratt, William	Associate Professor		116,477	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Witonsky, Sharon	Associate Professor		115,614	CY
Currin, John	Clinical Associate Professor		116,700	CY
Eyestone, Willard	Research Associate Professor		108,915	CY
Cecere, Julie	Clinical Assistant Professor		94,327	CY
Funk, Rebecca	Clinical Assistant Professor		101,520	CY
Gilsenan, William	Clinical Assistant Professor		95,000	CY
Guynn, Sierra	Clinical Assistant Professor		106,988	CY
Reeder, Dana	Clinical Assistant Professor		113,986	CY
Settlage, Julie	Clinical Assistant Professor		113,058	CY
Shepherd, Megan	Clinical Assistant Professor		118,910	CY
Wilson, Katherine	Clinical Assistant Professor		107,069	CY
Santos, Marcos	Clinical Instructor		73,500	CY
Schramm, Hollie	Clinical Instructor		95,564	CY
Population Health Scie	nces			
Hodgson, Jennifer	Administrative Professor	Associate Dean	184,800	CY
Elvinger, Francois	Professor	Department Head	191,475	CY
Pierson, Frank	Professor	Director, VTH	153,830	CY
Redican, Kerry	Professor		164,529	CY
Marmagas, Susan	Associate Prof of Practice		96,176	CY
Pelzer, Jacquelyn	Associate Prof of Practice		103,500	CY
Ragan, Valerie	Associate Prof of Practice		147,897	CY
Hosig, Kathryn	Associate Professor		109,540	AY
Pierce, Bess	Associate Professor		137,655	CY
Evans, Nicholas	Research Scientist		58,478	CY
Abbas, Kaja	Assistant Professor		94,379	CY
Bertke, Andrea	Assistant Professor		100,838	CY
Burgess, Brandy	Assistant Professor		109,430	AY
Wenzel, Sophie	Professional Lecturer		59,860	CY
Forburger, Ann	Sr Project Associate		38,800	CY
0				
Small Animal Clinical S		5	400.054	014
Daniel, Gregory	Professor	Department Head	196,954	CY
Inzana, Karen	Professor		143,215	CY
Larson, Martha Leib, Michael	Professor Professor	Endowed Professor	138,395 130,662	CY AY
Monroe, Edward	Professor	Elidowed Floiessoi	138,395	CY
Panciera, David	Professor	Endowed Professor	142,379	CY
Pickett, James	Professor	Lindowed Fiolesson	137,362	CY
Troy, Gregory	Professor	Endowed Professor	175,362	CY
Abbott, Jonathan	Associate Professor	2.133,103,113,103,00	122,851	CY
Borgarelli, Michele	Associate Professor		132,094	CY
Gilley, Robert	Associate Professor		149,765	CY
Grant, David	Associate Professor		122,157	CY
Henao Guerrero, Piedad	Associate Professor		119,724	CY
Herring, Ian	Associate Professor		139,755	CY
<u>.</u> .			•	

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Lanz, Otto	Associate Professor		142,114	CY
Rossmeisl, John	Associate Professor		130,524	CY
Bartl, Lara	Assistant Professor		127,757	CY
Benitez, Marian	Assistant Professor		116,189	CY
Champagne, Erin	Assistant Professor		88,390	CY
Clapp, Kemba	Assistant Professor		123,419	CY
Dervisis, Nikolaos	Assistant Professor		128,170	CY
Freeman, Mark	Assistant Professor		109,373	CY
Nappier, Michael	Assistant Professor		107,500	CY
Neves Soares, Joao Henrique	Assistant Professor		113,607	CY
Pancotto, Theresa	Assistant Professor		110,096	CY
Pavlisko, Noah	Assistant Professor		105,345	CY
Ruth, Jeffrey	Assistant Professor		122,799	CY
Bachelez, Andreas	Clinical Assistant Professor		136,628	CY
Barry, Sabrina	Clinical Assistant Professor		111,052	CY
Klahn, Shawna	Clinical Assistant Professor		118,359	CY
Rios, Lori	Clinical Assistant Professor		108,133	CY
Veterinary Medicine Cli Burns, Travis	nical Services Professional Lecturer		72,174	CY
Veterinary Medicine Tea	aching Hospital			
Foster, Drema	Professional Lecturer		73,644	CY
Hiller, Richard	Professional Lecturer		108,194	CY
McKenzie, Marylee	Professional Lecturer		57,011	CY
Veterinary Medicine Ex	periment Station Research Scientist		70,539	CY
Werre, Stephen	Research Assistant Professor		70,539	CY
weire, otephen	Nescaluli Assistant Fidiessul		11,020	O1

Dean of Libraries

<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
<u>Library</u>				
Walters, Tyler	Administrative Professor	Dean	232,500	CY
Kok, Victoria	Professional Professor		95,502	CY
McMillan, Gail	Professional Professor	Director	101,986	CY
Purcell, Aaron	Professional Professor	Director	91,168	CY
Mathews, Brian	Administrative Associate Prof	Associate Dean	125,914	CY
Bailey, Annette	Professional Associate Prof		74,807	CY
French, Amanda	Professional Associate Prof		80,000	CY
Kennelly, Tamara	Professional Associate Prof		63,800	CY
Krupar, Ellen	Professional Associate Prof		72,022	CY
Lener, Edward	Professional Associate Prof		88,437	CY
Meier, Carolyn	Professional Associate Prof		70,300	CY
Miller, Rebecca	Professional Associate Prof		74,773	CY
Pencek, Bruce	Professional Associate Prof		60,516	CY
Pressley, Lauren	Professional Associate Prof		81,949	CY
Shen, Yi	Professional Associate Prof		62,881	CY
Thompson, Larry	Professional Associate Prof		71,469	CY
Tomlin, Patrick	Professional Associate Prof		68,374	CY
Xie, Zhiwu	Professional Associate Prof		90,835	CY
Gilbertson, Keith	Administrative Assistant Prof		74,269	CY
Speer, Julie	Administrative Assistant Prof	Associate Dean	122,593	CY
Speer, Ryan	Administrative Assistant Prof		58,278	CY
Brodsky, Marc	Professional Assistant Prof		54,031	CY
Brown, Byron	Professional Assistant Prof		77,974	CY
Dietz, Kira	Professional Assistant Prof		52,760	CY
Finn, Mary	Professional Assistant Prof		65,874	CY
Gilmore, Tracy	Professional Assistant Prof		48,667	CY
Goldbeck DeBose, Kyrille	Professional Assistant Prof		56,210	CY
Hall, Monena	Professional Assistant Prof		51,411	CY
Hall, Nathan	Professional Assistant Prof		69,540	CY
Hover, Paul	Professional Assistant Prof		56,972	CY
Nardine, Jennifer	Professional Assistant Prof		55,441	CY
Nicholls, Natsuko	Professional Assistant Prof		66,625	CY
O'Brien, Leslie	Professional Assistant Prof	Director	112,216	CY
Obenhaus, Bruce	Professional Assistant Prof		75,740	CY
Ogier, Andrea	Professional Assistant Prof		71,061	CY
Pannabecker, Virginia	Professional Assistant Prof		49,440	CY
Walz, Anita	Professional Assistant Prof		57,925	CY
Winn, Samantha	Professional Assistant Prof		47,000	CY
Young, Philip	Professional Assistant Prof		56,561	CY
Gilbert, Charla	Administrative Lecturer	Director	91,028	CY
Battleson, Keith	Professional Lecturer		70,439	CY
Borwick, John	Professional Lecturer	Director	102,000	CY
Bradley, Jonathan	Professional Lecturer		51,000	CY
Brittle, Collin	Professional Lecturer		59,204	CY
Carr, Curtis	Professional Lecturer		97,939	CY

Dean of Libraries

		Recommended Salary	
Rank	<u>Title</u>	For 2015 - 2016	<u>Appt</u>
Professional Lecturer		66,625	CY
Professional Lecturer		53,040	CY
Professional Lecturer		59,780	CY
Professional Lecturer		51,125	CY
Professional Lecturer		71,400	CY
Professional Lecturer		49,055	CY
Professional Lecturer		51,012	CY
Professional Lecturer		59,655	CY
Professional Lecturer		71,400	CY
Professional Lecturer		80,000	CY
Professional Lecturer		49,440	CY
Professional Lecturer		59,450	CY
Professional Lecturer		72,920	CY
Professional Lecturer		67,400	CY
Professional Lecturer		46,068	CY
Professional Lecturer		54,000	CY
Professional Lecturer		47,000	CY
Professional Lecturer		59,386	CY
	Professional Lecturer	Professional Lecturer	Professional Lecturer 66,625 Professional Lecturer 53,040 Professional Lecturer 59,780 Professional Lecturer 51,125 Professional Lecturer 71,400 Professional Lecturer 49,055 Professional Lecturer 51,012 Professional Lecturer 59,655 Professional Lecturer 71,400 Professional Lecturer 80,000 Professional Lecturer 49,440 Professional Lecturer 59,450 Professional Lecturer 72,920 Professional Lecturer 67,400 Professional Lecturer 46,068 Professional Lecturer 54,000 Professional Lecturer 54,000 Professional Lecturer 47,000

Graduate School

<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt	
Dean - Graduate School					
DePauw, Karen	Administrative Professor	Vice President and Dean	270,000	CY	
Austin, Janice	Professional Lecturer		61,291	CY	
Beane, Dannette	Professional Lecturer		74,105	CY	
Grimes, Catherine	Professional Lecturer		58,200	CY	
Riegger, Marin	Professional Lecturer		27,000	CY	
Sippel, Jeremy	Professional Lecturer		67,285	CY	
Walton, William	Professional Lecturer		95,000	CY	
Graduate School Student Services					
Gibson, Monika	Professional Lecturer	Director, GSSO	80,700	CY	

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Adult Day Care				
Schepisi, Ila	Advanced Instructor		56,881	CY
Beeson, Brenton	Instructor	ADC	37,400	CY
Apparel, Housing and R	esource Management			
Beamish, Julia	Professor	Department Head	143,484	CY
Gaskill, LuAnn	Professor		103,601	AY
Goss, Rosemary	Professor	Endowed Professor	127,127	AY
Kincade, Doris	Professor		104,652	AY
Norton, Marjorie	Professor		119,033	CY
Parrott, Kathleen	Professor		102,746	AY
Chen-Yu, Hsiu	Associate Professor		77,936	AY
Fisher, Patricia	Associate Professor		72,626	AY
Leech, Irene	Associate Professor		76,941	AY
Hopkins, Erin	Assistant Professor		65,000	AY
Hwang, Eunju	Assistant Professor		64,380	AY
Lee, Jung Eun	Assistant Professor		60,850	AY
Read, Dustin	Assistant Professor		118,600	AY
Solis, Oscar	Assistant Professor		61,380	AY
Carneal, Margaret	Instructor		41,170	AY
Center for Gerontology				
Roberto, Karen	Professor	Director	233,438	CY
Sands, Laura	Professor		56,650	AY
Teaster, Pamela	Professor		112,750	AY
Stuart, Megan	Project Associate		40,066	CY
Brossoie, Nancy	Senior Research Associate		72,800	CY
Child Development Cen	ter for Learning and Rese	<u>earch</u>		
Gallagher, Karen	Advanced Instructor	CDCLR	58,607	CY
<u>Communication</u>				
Denton, Robert	Professor	Department Head and Endowed Professor	183,015	CY
Hopkins, William	Professor		91,150	AY
Tedesco, John	Professor		87,475	AY
Ivory, James	Associate Professor		79,722	AY
Kuypers, Jim	Associate Professor		78,400	AY
Mackay, Jennifer	Associate Professor		72,625	AY
Preston, Marlene	Associate Professor		73,900	AY
Waggenspack, Beth	Associate Professor		84,740	AY
Cannon, Douglas	Assistant Professor		66,000	AY
Horning, Michael	Assistant Professor		63,700	AY
Ivory, Adrienne	Assistant Professor		66,000	AY
Logan, Nneka	Assistant Professor		63,050	AY
Myers, Marcus	Assistant Professor		62,200	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Watkins, Brandi	Assistant Professor		62,025	AY
Howell, Buddy	Visiting Assistant Professor		54,200	AY
McBride, Kelly	Visiting Assistant Professor		56,100	AY
Aguilar, Derley	Advanced Instructor		48,500	AY
Jenkins, Dale	Advanced Instructor		51,800	AY
Quesenberry, Brandi	Advanced Instructor		48,200	AY
Robinson, Syrenthia	Advanced Instructor		53,000	AY
Kanter, Erik	Instructor		40,000	AY
Shinault, Hannah	Instructor		40,100	AY
Sowder, Nathan	Instructor		38,150	AY
Stinson, Susan	Instructor		41,800	AY
Tydings, Emilie	Instructor		38,340	AY
Stallings, Emily	Senior Instructor		57,100	AY
Center for Information	Technology Impacts on C	hildren, Youth and Families		
Meszaros, Peggy	Professor	Endowed Professor	175,746	AY
Dean-Liberal Arts and F	luman Sciences			
Ewing, Edward	Administrative Professor	Associate Dean	129,736	CY
Spiller, Elizabeth	Administrative Professor	Associate Dean	280,500	CY
Stoudt, Debra	Administrative Professor	Associate Dean	145,544	CY
Stephens, Robert	Administrative Associate Prof	Associate Dean	103,804	CY
Watson, Karen	Professional Instructor	Associate Dean	65,445	CY
Shabanowitz, Brian	Administrative Lecturer	Associate Dean	155,347	CY
Besag, Cameron	Professional Lecturer	Director of IT	81,804	CY
Kimbrell, Monica	Professional Lecturer	Birodol of H	57,240	CY
Lucht, Marc	Professional Lecturer		70,441	CY
Rideau, Ryan	Professional Lecturer		52,530	CY
Nucau, Nyan	i Tolessional Lecturei		32,000	O1
Religion and Culture				
Britt, Brian	Professor	Department Head	133,762	CY
Fine, Elizabeth	Professor		98,599	AY
Malbon, Elizabeth	Professor		109,117	AY
Saffle, Michael	Professor		99,611	AY
Abeysekara, Ananda	Associate Professor		91,147	AY
Gabriele, Matthew	Associate Professor		82,159	AY
Puckett, Anita	Associate Professor	Director	74,243	AY
Satterwhite, Emily	Associate Professor		68,715	AY
Schmitthenner, Peter	Associate Professor		81,194	AY
Scott, Rachel	Associate Professor		77,337	AY
Ansell, Aaron	Assistant Professor		60,250	AY
Murty, Madhavi	Assistant Professor		57,500	AY
Ni, Zhange	Assistant Professor		63,409	AY
Dresser, Zachary	Visiting Assistant Professor		46,000	AY
Gross, Rachel	Visiting Assistant Professor		57,512	AY

Name	Rank	Title	Recommended Salary For 2015 - 2016	Appt
Soni, Raji	Visiting Assistant Professor		57,512	AY
Roberts, Constance	Senior Instructor		52,547	AY
<u>English</u>				
D'Aguiar, Frederick	Professor		143,349	AY
Eska, Joseph	Professor	Department Head	135,031	CY
Falco, Edward	Professor		103,209	AY
Fowler, Virginia	Professor		102,935	AY
Gardner, Thomas	Professor	Alumni Distinguished Professor and Endowed Professor	129,542	AY
George, Diana	Professor		117,332	AY
Giovanni, Nikki	Professor	University Distinguished Professor	190,409	AY
Graham, Peter	Professor		140,317	AY
Hausman, Bernice	Professor	Endowed Professor	119,848	AY
Metz, Nancy	Professor		96,987	AY
Parrish, Timothy	Professor		123,850	AY
Radcliffe, David	Professor		86,650	AY
Roy, Lucinda	Professor	Alumni Distinguished Professor and Endowed Professor	187,360	AY
Siegle, Robert	Professor		123,356	CY
Sorrentino, Paul	Professor	Endowed Professor	120,423	AY
Belanger, Kelly	Associate Professor		93,188	AY
Carter-Tod, Sheila	Associate Professor		83,331	AY
Chandler-Smith, Gena	Associate Professor		77,715	AY
Colaianne, Anthony	Associate Professor		108,152	CY
Dubinsky, James	Associate Professor		81,936	AY
Eska, Charlene	Associate Professor		69,006	AY
Evia Puerto, Carlos	Associate Professor		74,179	AY
Heilker, Paul	Associate Professor		90,463	AY
Hicok, Robert	Associate Professor		97,937	AY
Knapp, Shoshana	Associate Professor		72,981	AY
Mann, Jeffrey	Associate Professor		80,639	AY
Meitner, Erika	Associate Professor		75,075	AY
Pender, Kelly	Associate Professor	Di 4 MOO	78,517	AY
Powell, Katrina	Associate Professor	Director, WGS	94,150	AY
Swenson, Karen	Associate Professor		64,475	AY
Vollmer, James	Associate Professor		72,706	AY
Carmichael, Katie	Assistant Professor		60,490	AY
Cleland, Katharine	Assistant Professor		59,680	AY
Mazzolini, Elizabeth	Assistant Professor		55,080	AY
Sano-Franchini, Jennifer	Assistant Professor		63,286	AY
Warrick Ouinn	Assistant Professor		60,490	AY
Warnick, Quinn	Assistant Professor		61,741	AY
Barton, Jennifer	Advanced Instructor		42,166	AY
Lautenschlager, Edward	Advanced Instructor		42,268	AY
Ruccolo, Vanessa	Advanced Instructor		41,275	AY

<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>	
Scallorns, Joseph	Advanced Instructor		42,555	AY	
Baker, Hannah	Instructor		38,274	AY	
Baker, Shaun	Instructor		38,274	AY	
Bean, Carl	Instructor		40,852	AY	
Conaway, Sean	Instructor		38,741	AY	
Crickenberger, Sara	Instructor		38,741	AY	
Gardner, Traci	Instructor		38,461	AY	
Gibbs, Jared	Instructor		39,522	AY	
Le Corre-Cochran, Victoria	Instructor		38,578	AY	
Lewis, Kevin	Instructor		38,640	AY	
Martin, Stephanie	Instructor		39,544	AY	
Maycock, Michelle	Instructor		37,340	AY	
Sanders, Scott	Instructor		38,932	AY	
Trager, Eve	Instructor		48,733	CY	
Allnutt, Robin	Senior Instructor		46,837	AY	
Armstrong, Mark	Senior Instructor		50,830	AY	
Bliss, Michael	Senior Instructor		47,111	AY	
Bloomer, Elisabeth	Senior Instructor		51,074	AY	
Canter, Robert	Senior Instructor		49,801	AY	
Combiths, Zana	Senior Instructor		46,013	AY	
Frost, Serena	Senior Instructor		46,906	AY	
Graham, Kathryn	Senior Instructor		64,745	AY	
Harvill, Joann	Senior Instructor		52,144	AY	
Kinder, Alice	Senior Instructor		55,880	AY	
Lawrence, Jennifer	Senior Instructor		50,943	AY	
Mengert, Julie	Senior Instructor		47,409	AY	
Mooney, Jennifer	Senior Instructor		71,965	CY	
Mooney, Stephen	Senior Instructor		49,721	AY	
Moore, Mary	Senior Instructor		55,551	AY	
Murphy, Aileen	Senior Instructor		56,511	AY	
Neilan, Leslie	Senior Instructor		55,466	AY	
Oakey, Steve	Senior Instructor		47,678	AY	
Patton, Herbert	Senior Instructor		52,195	AY	
Reisinger, Suzanne	Senior Instructor		69,909	CY	
Saffle, Geraldine	Senior Instructor		51,001	AY	
Skinner, Linda	Senior Instructor		47,374	AY	
Smith, Michael	Senior Instructor		53,120	AY	
Voros, Gyorgyi	Senior Instructor		49,093	AY	
Wemhoener, Jane	Senior Instructor		53,369	AY	
Foreign Languages and Literatures					
Bixler, Jacqueline	Professor	Alumni Distinguished Professor, Endowed	162,077	CY	
·		Professor, and Department Head			
Watson, Ronda	Professor		85,385	AY	
Austin, Elisabeth	Associate Professor		67,423	AY	
Bauer, Esther	Associate Professor		65,200	AY	

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Becker, Andrew	Associate Professor		81,583	AY
Coburn, Melissa	Associate Professor		65,186	AY
Efird, Robert	Associate Professor		64,700	AY
Folkart, Jessica	Associate Professor		78,089	AY
Gudmestad, Aarnes	Associate Professor		74,692	AY
Gueye, Medoune	Associate Professor		66,330	AY
Johnson, Sharon	Associate Professor		67,774	AY
Milman-Miller, Nyusya	Associate Professor		73,698	AY
Noirot, Corinne	Associate Professor		67,406	AY
Panford, Moses	Associate Professor		66,354	AY
Shryock, Richard	Associate Professor		79,216	AY
Sierra, Sarah	Associate Professor		66,079	AY
Teulon, Fabrice	Associate Professor		70,156	AY
Venkatesh, Vinodh	Associate Professor		74,022	AY
Allingham, Liesl	Assistant Professor		57,014	AY
Andrango-Walker, Catalina	Assistant Professor		58,133	AY
Cana Jimenez, Maria	Assistant Professor		61,809	AY
Dickow, Alexander	Assistant Professor		55,725	AY
Minkova, Yuliya	Assistant Professor		56,764	AY
Sinno, Nadine	Assistant Professor		69,114	AY
Zimmer, Zac	Assistant Professor		66,665	AY
Hofer, Stefanie	Research Assistant Professor		61,004	AY
Dalton, Addison	Instructor		38,392	AY
Guo, Shun	Instructor		38,839	AY
Hesp, Andrea	Instructor		53,249	AY
Kumazawa, Yasuko	Instructor		38,150	AY
Layne, Jay	Instructor		39,535	AY
Lopez-Romero, Nancy	Instructor		40,022	AY
McKagen, Tatiana	Instructor		37,909	AY
Nassereddine, Ragheda	Instructor		48,960	AY
Phillips, Richard	Instructor		48,695	AY
Sguerri, Michael Sobrado, Alejandra	Instructor Instructor		38,760 38,760	AY AY
Steer, Christine	Instructor		39,535	AY
Younos, Yumiko	Instructor		38,380	AY
Tourios, Turrino	msudctor		30,300	Al
<u>History</u>				
Barrow, Mark	Professor	Department Head	124,768	CY
Baumgartner, Frederic	Professor		101,013	AY
Ekirch, Arthur	Professor		118,290	AY
Hirsh, Richard	Professor		94,198	AY
Wallenstein, Peter	Professor		100,058	AY
Bugh, Glenn	Associate Professor		86,971	AY
Bunch-Lyons, Beverly	Associate Professor		72,851	AY
Gumbert, Heather	Associate Professor		70,432	AY
Heaton, Matthew	Associate Professor		71,766	AY
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<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Jones, Kathleen	Associate Professor		82,816	AY
Mollin, Marian	Associate Professor		74,925	AY
Nelson, Amy	Associate Professor		82,727	AY
Quigley, Paul	Associate Professor	Endowed Professor	95,844	AY
Schneider, Helen	Associate Professor		72,140	AY
Shadle, Brett	Associate Professor		70,779	AY
Shumsky, Neil	Associate Professor		79,372	AY
Thorp, Daniel	Associate Professor		86,868	AY
Agmon, Danna	Assistant Professor		62,904	AY
Cline, David	Assistant Professor		65,854	AY
Felt, David	Assistant Professor		59,221	AY
Gitre, Carmen	Assistant Professor		59,221	AY
Halpin, Dennis	Assistant Professor		57,744	AY
Hidalgo, Dennis	Assistant Professor		69,120	AY
Kiechle, Melanie	Assistant Professor		62,351	AY
Milteer, Warren	Assistant Professor		61,500	AY
Winling, LaDale	Assistant Professor		62,606	AY
Kutz, Kimberly	Postdoctoral Associate		45,000	CY
Gitre, Edward	Visiting Assistant Professor		45,624	AY
Becker, Gertrude	Senior Instructor		56,640	AY
Human Development				
Allen, Katherine	Professor		120,324	AY
Arditti, Joyce	Professor		94,942	AY
Blieszner, Rosemary	Professor	Alumni Distinguished Professor and Endowed Professor	189,049	CY
Boucouvalas, Marcie	Professor		101,535	AY
Fu, Victoria	Professor		104,123	AY
McCollum, Eric	Professor		122,239	CY
Piercy, Fred	Professor		120,739	AY
Zvonkovic, Anisa	Professor	Department Head	163,176	CY
Benson, Mark	Associate Professor		88,593	AY
Dolbin-MacNab, Megan	Associate Professor		81,352	AY
Falconier, Mariana	Associate Professor		88,821	AY
Few-Demo, April	Associate Professor		81,138	AY
Huebner, Angela	Associate Professor		87,565	AY
Jarrott, Shannon	Associate Professor		96,841	RE11
Johnson, Scott	Associate Professor		100,439	CY
Kaestle, Christine	Associate Professor		79,778	AY
Kim, Kee	Associate Professor		69,242	AY
Savla, Jyoti	Associate Professor		80,289	AY
Smith, Cynthia	Associate Professor		84,662	AY
Bradburn, Isabel	Research Scientist		66,478	AY
Grafsky, Erika	Assistant Professor		65,050	AY
Blanchard, Victoria	Instructor		48,513	AY
Gardner, Alexa	Instructor		40,435	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Komelski, Matthew	Instructor		53,811	AY
Verdu, Mary	Senior Instructor		76,524	CY
Office of Education, Re	esearch, and Outreach			
Potter, Kenneth	Clinical Assistant Professor		66,285	AY
Barrier, Helen	Project Associate		69,211	CY
Beeken, Lora	Project Associate		69,288	CY
Eaton, Diann	Project Associate		69,428	CY
Fielder, Emily	Project Associate		52,208	CY
Flores, Selina	Project Associate		66,060	CY
Jacomen, Royce	Project Associate		64,491	CY
McCaleb, Dana	Project Associate		62,259	CY
Miller, Whitney	Project Associate		64,081	CY
Nester, Holly	Project Associate		63,804	CY
Phillips, Wendy	Project Associate		61,000	CY
Schulz, Susan	Project Associate		63,281	CY
Vaughan, Margaret	Project Associate		64,778	CY
Washburn, Jocelyn	Project Associate		62,315	CY
Bickley, Patricia	Project Director		85,817	CY
Bordeaux, Amy	Sr Project Associate		70,886	CY
Deck, Anita	Sr Project Associate		57,552	CY
Seibert, Michele	Sr Project Associate		83,980	CY
<u>Philosophy</u>				
Klagge, James	Professor		103,540	AY
Mayo, Deborah	Professor		122,672	AY
Pitt, Joseph	Professor	Interim Department Head	135,390	AY
McPherson, Tristram	Associate Professor		71,292	AY
Moehler, Michael	Associate Professor		74,990	AY
Patton, Lydia	Associate Professor		84,672	AY
Jantzen, Benjamin	Assistant Professor		67,423	AY
Trogdon, Kelly	Assistant Professor		66,836	AY
Adams, Nathan	Visiting Assistant Professor		50,000	AY
Kraemer, Daniel	Visiting Assistant Professor		50,000	AY
Novack, Gregory	Visiting Assistant Professor		50,750	AY
Parent, Ted	Visiting Assistant Professor		50,750	AY
Rockwood, Nathan	Visiting Assistant Professor		50,750	AY
Political Science				
Debrix, Francois	Professor	Director, ASPECT	157,300	CY
Hult, Karen	Professor		119,100	AY
Luciak, Ilja	Professor		127,298	AY
Luke, Timothy	Professor	University Distinguished Professor and Department Head	271,425	CY
Taylor, Charles	Professor		127,232	AY
Weisband, Edward	Professor	Endowed Professor	183,000	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Apodaca, Clair	Associate Professor		76,585	AY
Koch, Bettina	Associate Professor		69,734	AY
Lavin, Chad	Associate Professor		68,345	AY
Milly, Deborah	Associate Professor		72,503	AY
Moore, Wayne	Associate Professor		74,160	AY
Nelson, Scott	Associate Professor		69,000	AY
Stivachtis, Ioannis	Associate Professor	Director	107,260	CY
Zanotti, Laura	Associate Professor		86,200	AY
Briggs, Ryan	Assistant Professor		57,200	AY
Dixit, Priya	Assistant Professor		67,821	AY
Jewitt, Caitlin	Assistant Professor		61,495	AY
Kalyan, Rohan	Assistant Professor		60,705	AY
Kelly, Jason	Assistant Professor		61,260	AY
Medina, Dennis	Assistant Professor		57,081	AY
Plotica, Luke	Assistant Professor		58,483	AY
Pula, Besnik	Assistant Professor		60,200	AY
Scerri, Andrew	Assistant Professor		66,260	AY
Faulkner, Brandy	Visiting Assistant Professor		53,239	AY
Shuster, Amy	Visiting Assistant Professor		49,277	AY
Thomas, Courtney	Visiting Assistant Professor		63,420	AY
Hanratty, Jennifer	Instructor		50,058	CY
Torres, Josette	Instructor		36,944	CY
School of Education				
	Drafacear		142.450	A.V
Alexander, Michael	Professor	Faculty Obside	143,150	AY
Billingsley, Bonnie	Professor	Faculty Chair	111,793	AY
Burge, Penny	Professor		99,246	AY
Burton, John	Professor	Faculty Obside	128,364	AY
Cennamo, Katherine	Professor	Faculty Chair	99,999	AY
Creamer, Elizabeth	Professor		112,206	AY
Doolittle, Peter	Professor Professor		122,408	CY
Garrison, James Glasson, George	Professor		111,207	AY
, 3	Professor		92,214 115,774	AY AY
Hirt, Joan Jones, Brett	Professor		90,393	AY
	Professor		117,532	RE11
Lockee, Barbara Magliaro, Susan	Professor		117,552	AY
Mullen, Carol	Professor		169,216	CY
Singh, Kusum	Professor		110,975	AY
Sutphin, H	Professor		164,409	CY
Wilkins, Jesse	Professor		88,184	AY
Barksdale, Mary	Associate Professor		83,757	AY
Bodenhorn, Nancy	Associate Professor		100,566	CY
Brand, Brenda	Associate Professor		83,021	AY
Brill, Jennifer	Associate Professor		68,257	AY
Brott, Pamelia	Associate Professor		82,988	AY
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<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Ernst, Jeremy	Associate Professor		103,897	RE12
Glenn, William	Associate Professor		78,310	AY
Hein, Serge	Associate Professor		69,880	AY
Hicks, David	Associate Professor		85,846	AY
Janosik, Steven	Associate Professor		106,909	AY
Lawson, Gerard	Associate Professor		86,151	AY
Mesmer, Heidi	Associate Professor		76,549	AY
Miyazaki, Yasuo	Associate Professor		70,900	AY
Parkes, Kelly	Associate Professor		75,329	AY
Price, William	Associate Professor		78,137	AY
Skaggs, Gary	Associate Professor		75,000	AY
Tilley-Lubbs, Gresilda	Associate Professor		70,273	AY
Welfare, Laura	Associate Professor		71,872	AY
Wells, John	Associate Professor		80,785	AY
Williams, Thomas	Associate Professor		71,251	AY
Kelly, Michael	Clinical Associate Professor		71,936	AY
Azano, Amy	Assistant Professor		68,100	AY
Bondy, Jennifer	Assistant Professor		64,100	AY
Farmer, Laura	Assistant Professor		63,385	AY
Patrizio, Kami	Assistant Professor		77,149	AY
Price, Ted	Assistant Professor		64,515	AY
Robbins, Claire	Assistant Professor		65,541	AY
Rose, Valija	Assistant Professor		67,700	AY
Stewart, Trevor	Assistant Professor		65,250	AY
Ulrich, Catherine	Assistant Professor		62,050	AY
Wilson, Joycelyn	Assistant Professor		65,125	AY
Gratto, John	Clinical Assistant Professor		72,878	AY
Sato, Takumi	Clinical Assistant Professor		62,825	AY
Wu, Yanzhu	Clinical Assistant Professor		66,687	CY
Bayne, Hannah	Visiting Assistant Professor		55,700	AY
Mukuni, Joseph	Visiting Assistant Professor		52,307	AY
Knight, Dawn	Instructor		48,153	CY
Konishi, Chiaki	Instructor		38,500	AY
School of Performing	<u>Arts</u>			
Burnsed, Charles	Professor		106,221	CY
Crone, William	Professor		82,517	AY
Holliday, Kent	Professor		86,213	AY
Kilkelly, Ann	Professor		108,051	AY
Leonard, Robert	Professor		96,108	AY
Lepczyk, Billie	Professor		90,506	AY
Prince, Stephen	Professor		101,069	AY
Raun, Patricia	Professor	Director	150,450	CY
Sochinski, James	Professor		113,989	CY
Ward, Randolph	Professor		111,737	AY
Lyon, Eric	Associate Prof of Practice		79,375	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Ambrosone, John	Associate Professor		68,213	AY
Barksdale, William	Associate Professor		65,822	AY
Bukvic, Ivica	Associate Professor		87,159	AY
Cole, Richard	Associate Professor		78,200	AY
Cowden, Tracy	Associate Professor	Faculty Chair	77,891	AY
Easter, Wallace	Associate Professor		78,099	AY
Glazebrook, William	Associate Professor		88,918	AY
Jacobsen, David	Associate Professor		72,165	AY
Johnson, David	Associate Professor		78,379	AY
Justice, Gregory	Associate Professor		84,995	AY
Lavender, Patricia	Associate Professor		92,285	CY
McGrath, Robert	Associate Professor		67,126	AY
Rawlings, Cara	Associate Professor		62,155	AY
Rinehart, Susanna	Associate Professor	Faculty Chair	82,000	AY
Weinstein, Alan	Associate Professor		72,088	AY
Bigler, Dwight	Assistant Professor		65,853	AY
Crafton, Jason	Assistant Professor		60,890	AY
Dye, Charles	Assistant Professor		57,100	AY
Millett, Joseph	Assistant Professor		53,279	AY
Nelson, Amanda	Assistant Professor		70,313	AY
Nichols, Charles	Assistant Professor		68,981	AY
Staley, Natasha	Assistant Professor		67,905	AY
Stein, Jane	Assistant Professor		61,679	AY
Thorsett, Brian	Assistant Professor		54,537	AY
Wyatt, Ariana	Assistant Professor		58,803	AY
Gillick, Amy	Visiting Assistant Professor		51,200	AY
Heuermann, Beryl	Visiting Assistant Professor		46,000	AY
Middleton, Polly	Visiting Assistant Professor		45,364	AY
Paglialonga, Phillip	Visiting Assistant Professor		54,500	AY
Putnam, Andrew	Visiting Assistant Professor		48,950	AY
Stevens, Annie	Visiting Assistant Professor		52,250	AY
Walker, John	Visiting Assistant Professor		49,300	AY
Precoda, Karl	Advanced Instructor		44,615	AY
Masters, Richard	Instructor		51,300	AY
McNeill, George	Instructor		47,202	AY
Russo, Christopher	Instructor		47,678	AY
Vo, Long Dien	Instructor		46,639	AY
Crone, Elizabeth	Senior Instructor		54,075	AY
Dunston, Michael	Senior Instructor		61,567	AY
McKee, David	Senior Instructor		106,472	CY
Science and Technolog	y in Society			
Allen, Barbara	Professor		102,276	AY
Downey, Gary	Professor	Alumni Distinguished Professor and Endowed Professor	134,202	AY
Fuhrman, Ellsworth	Professor	Department Head	111,182	AY

Name	<u>Rank</u>	Title	Recommended Salary For 2015 - 2016	Appt
Zallen, Doris	Professor		103,086	AY
Abbate, Janet	Associate Professor		78,678	AY
Breslau, Daniel	Associate Professor		105,590	CY
Collier, James	Associate Professor		69,734	AY
Halfon, Saul	Associate Professor		74,180	AY
Patzig, Eileen	Associate Professor		79,037	AY
Schmid, Sonja	Associate Professor		91,431	AY
Wisnioski, Matthew	Associate Professor		74,013	AY
Heflin, Ashley	Assistant Professor		31,296	AY
Olson, Philip	Assistant Professor		63,093	AY
Dufour, Monique	Visiting Assistant Professor		45,000	AY
Goodrum, Matthew	Visiting Assistant Professor		45,000	AY
Sociology				
Agozino, Onwubiko	Professor		99,912	AY
Brunsma, David	Professor		151,884	AY
Calasanti, Toni	Professor		110,250	AY
Fuller, Theodore	Professor		85,892	AY
Gillman, Laura	Professor		84,946	AY
Hawdon, James	Professor	Director, CPSVP	130,760	CY
Hughes, Michael	Professor		110,220	AY
Kiecolt, K	Professor		86,413	AY
King, Neal	Professor		85,502	AY
Reed, Wornie	Professor	Director, RSPRC	161,314	AY
Ryan, John	Professor	Department Head	187,560	CY
Shoemaker, Donald	Professor		99,282	AY
Smith, Barbara	Professor		109,754	AY
Bailey, Carol	Associate Professor		76,200	AY
Cook, Samuel	Associate Professor	Director, AIS	77,336	AY
Harrison, Anthony	Associate Professor		87,912	AY
Peguero, Anthony	Associate Professor		97,676	AY
Polanah, Paulo	Associate Professor		71,615	AY
Seniors, Paula	Associate Professor		70,645	AY
Vogt Yuan, Anastasia	Associate Professor		74,666	AY
Wimberley, Dale	Associate Professor		69,720	AY
Copeland, Nicholas	Assistant Professor		63,904	AY
Labuski, Christine	Assistant Professor		65,022	AY
Ovink, Sarah	Assistant Professor		70,250	AY
Rivera-Rideau, Petra	Assistant Professor		63,750	AY
Samanta, Suchitra	Assistant Professor		66,748	AY
Zhu, Haiyan	Assistant Professor		64,753	AY
Graves, Ellington	Advanced Instructor	Director, AFST	69,226	AY
Sedgwick, Donna	Instructor		42,333	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Dean - Natural Resourc	es and Environment			
Smith, Robert	Administrative Professor	Associate Dean and Department Head	199,760	CY
Winistorfer, Paul	Administrative Professor	Dean	250,000	CY
Stauffer, Dean	Professor		135,071	CY
Olson, Thomas	Administrative Lecturer	Assistant Dean	123,439	CY
Lang, Stephanie	Professional Lecturer		61,071	CY
Weber, Lon	Professional Lecturer		94,463	CY
Fuller, Leslie	Senior Research Associate		78,669	CY
Conservation Managem	nent Institute			
Emrick, Verl	Research Scientist		67,770	CY
Bryan, David	Project Associate		47,112	CY
Carey, Caitlin	Project Associate		43,519	CY
Fields, Matthew	Project Associate		42,445	CY
Folks, Donald	Project Associate		45,024	CY
Glennon, Robert	Project Associate		48,207	CY
Herman, Jason	Project Associate		38,092	CY
Huemoeller, Lorien	Project Associate		44,508	CY
Kalen, Nicholas	Project Associate		37,798	CY
Kane, Austin	Project Associate		63,369	CY
McGuckin, Kevin	Project Associate		64,693	CY
Norris, Robert	Project Associate		50,638	CY
Orndorff, David	Project Associate		39,544	CY
Pletta, Madeline	Project Associate		38,942	CY
Rosenberger, Andrew	Project Associate		52,587	CY
Schneider, Rebecca	Project Associate		49,329	CY
Wolf, Eric	Project Associate		50,975	CY
Laube, Edward	Research Associate		42,959	CY
Roghair, Laura	Research Associate		57,119	CY
St Germain, Michael	Research Associate		53,993	CY
Klopfer, Scott	Senior Research Associate	Director	78,202	CY
Center for Geospatial In	nformation Technology			
Sforza, Peter	Research Scientist	Director	72,383	CY
Farrell, Brian	Project Associate	263.6.	46,200	CY
Kim, Ji Sun	Project Associate		45,000	CY
Newman, Joseph	Project Associate		45,100	CY
Center for Leadership I	n Global Sustainability			
Mortimer, Michael	Administrative Lecturer		160,459	CY
Robertson, David	Professional Lecturer		141,104	CY
				CY
Lindsey, Kieran	Sr Project Associate		72,167	Οſ

Fish and Wildlife Conservation

<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Fraser, James	Professor		135,304	CY
Haas, Carola	Professor		113,010	CY
Hallerman, Eric	Professor		137,556	CY
Hopkins, William	Professor		167,799	CY
Murphy, Brian	Professor		155,189	CY
Orth, Donald	Professor	Endowed Professor	143,175	AY
Snodgrass, Joel	Professor		154,508	CY
Alexander, Kathleen	Associate Professor		110,947	AY
Frimpong, Emmanuel	Associate Professor		89,316	AY
Jiao, Yan	Associate Professor		89,841	CY
Karpanty, Sarah	Associate Professor		93,565	AY
Kelly, Marcella	Associate Professor		106,789	CY
McMullin, Steve	Associate Professor		106,227	CY
Parkhurst, James	Associate Professor		97,538	CY
Gorman, Thomas	Research Scientist		62,883	CY
Henley, William	Research Scientist		47,020	CY
Castello, Leandro	Assistant Professor		69,645	AY
Ciparis, Serena	Postdoctoral Associate		30,382	CY
Silvis, Alexander	Postdoctoral Associate		46,575	CY
Catlin, Daniel	Research Assistant Professor		86,771	CY
DiCenzo, Victor	Instructor		46,799	CY
	Environmental Conservati		160 250	CV
Alavalapati, Janaki	Professor	Department Head	169,350	CY CY
Amacher, Gregory	Professor	Endowed Professor	122,687	
Aust, Wallace	Professor	Hairmanita Diakia arriahad Daafaaan and	121,275	CY
Burkhart, Harold	Professor	University Distinguished Professor and Endowed Professor	257,320	CY
Fox, Thomas	Professor		140,277	CY
Hull, Robert	Professor		124,005	CY
McGee, John	Professor		91,190	AY
Prisley, Stephen	Professor		124,382	RE11
Seiler, John	Professor	Alumni Distinguished Professor and Endowed Professor	160,757	CY
Sullivan, Bradley	Professor	Interim Department Head	134,320	CY
Wynne, Randolph	Professor		119,508	CY
Bolding, Michael	Associate Professor		112,183	RE12
Brunner, Amy	Associate Professor		105,917	CY
Copenheaver, Carolyn	Associate Professor		92,848	CY
Day, Susan	Associate Professor		79,599	AY
Holliday, Jason	Associate Professor		85,770	AY
Munsell, John	Associate Professor		86,450	CY
Radtke, Philip	Associate Professor		90,421	CY
Stern, Marc	Associate Professor		84,767	AY
Strahm, Brian	Associate Professor		87,831	AY
Thomas, Valerie	Associate Professor		81,387	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Wiseman, Phillip	Associate Professor		82,307	CY
Merry, Frank	Research Associate Professor		124,775	CY
Blinn, Christine	Research Scientist		62,199	CY
Teixeira, Rita	Research Scientist		49,713	CY
Barrett, Scott	Assistant Professor		76,187	CY
Cobourn, Kelly	Assistant Professor		77,215	AY
McLaughlin, Daniel	Assistant Professor		72,350	AY
Sorice, Michael	Assistant Professor		72,085	AY
Thomas, Robert	Assistant Professor		74,133	AY
Varner, Julian	Assistant Professor		106,108	RE12
Bai, Hua	Postdoctoral Associate		41,662	CY
Brooks, Evan	Postdoctoral Associate		48,088	CY
Horn, Kevin	Postdoctoral Associate		46,575	CY
Mandal, Mihir	Postdoctoral Associate		25,873	CY
Ochuodho, Thomas	Postdoctoral Associate		48,088	CY
Sumnall, Matthew	Postdoctoral Associate		43,056	CY
Thapa, Ram	Postdoctoral Associate		44,720	CY
Crall, Mary	Professional Lecturer		62,978	CY
Prysby, Michelle	Professional Lecturer		61,200	CY
Gagnon, Jennifer	Project Associate		59,421	CY
Kidd, John	Project Associate		45,292	CY
Albaugh, Timothy	Research Associate		91,494	CY
Laviner, Marshall	Research Associate		59,233	CY
Peer, Kyle	Research Associate		65,728	CY
Sheng, Xiaoyan	Research Associate		43,786	CY
Walker, David	Research Associate		36,209	CY
Amateis, Ralph	Senior Research Associate		89,361	CY
Franco, Carol	Senior Research Associate		57,200	AY
Silvius, Kirsten	Senior Research Associate		110,000	CY
<u>Geography</u>				
Campbell, James	Professor		118,616	AY
Carstensen, Laurence	Professor	Department Head	165,022	CY
Ellis, Andrew	Associate Professor		88,596	AY
Kennedy, Lisa	Associate Professor		80,203	AY
Kolivras, Korine	Associate Professor		81,929	AY
Resler, Lynn	Associate Professor		82,428	AY
Baird, Timothy	Assistant Professor		68,647	AY
Juran, Luke	Assistant Professor		67,992	AY
Oliver, Robert	Assistant Professor		69,949	AY
Shao, Yang	Assistant Professor		69,538	AY
Carroll, David	Advanced Instructor		61,569	AY
Scales, Stewart	Instructor		35,834	CY
Boyer, John	Senior Instructor		67,577	AY
Deisinger, Maureen	Professional Lecturer		35,176	CY

<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Natural Resource Ass	sessment and Decision Su	<u>ipport</u>		
Crescenti, Neil	Project Associate		47,700	CY
Kauffman, Jobriath	Project Associate		48,060	CY
Wade, Charles	Project Associate		50,100	CY
Yao, Xiaozheng	Project Associate		48,060	CY
Sustainable Biomater	<u>rials</u>			
Bond, Brian	Professor		107,683	CY
Buehlmann, Urs	Professor		109,958	CY
Bush, Robert	Professor		117,184	CY
Edgar, Kevin	Professor		169,972	AY
Frazier, Charles	Professor	Endowed Professor	140,081	CY
Goodell, Barry	Professor		157,446	CY
Hammett, A	Professor		108,588	CY
Kline, David	Professor		118,056	CY
Loferski, Joseph	Professor		114,480	CY
Zink-Sharp, Audrey	Professor		123,435	CY
Hindman, Daniel	Associate Professor		89,167	CY
Quesada Pineda, Henry	Associate Professor		87,305	CY
Roman, Maren	Associate Professor		92,173	CY
Chen, Zhangjing	Research Scientist		48,750	CY
Horvath, Laszlo	Assistant Professor		74,396	AY
Kim, Young Teck	Assistant Professor		73,996	AY
Rodriguez Rivera, Katia	Postdoctoral Associate		45,862	CY
Bouldin, John	Research Associate		52,800	CY
Caudill, Linda	Senior Research Associate		89,440	CY
Water Resources Res	search Center			
Schoenholtz, Stephen	Professor	Director	137,747	AY
McGuire, Kevin	Associate Professor		85,900	AY
Raflo, Alan	Research Associate		51,403	CY
Walker, Jane	Research Associate		52,815	CY

President

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Business and Managen	nent Systems			
Cooper, George	Administrative Lecturer	Director	100,432	CY
Burroughs, Brock	Professional Lecturer		80,036	CY
Earles, Corey	Professional Lecturer		74,843	CY
Rahmes, Christopher	Professional Lecturer		89,147	CY
Legal Counsel				
Heidbreder, Kay	Administrative Instructor	University Legal Counsel	181,614	CY
Capaldo, Stephen	Administrative Lecturer		90,576	CY
Gess, Mark	Administrative Lecturer		89,312	CY
McClanahan, Marvin	Administrative Lecturer		115,219	CY
Gallagher, Tracey	Professional Lecturer		78,311	CY
President's Staff				
Hart, Natalie	Administrative Lecturer		94,784	CY
O'Rourke, Kim	Administrative Lecturer	Chief of Staff	176,196	CY
Yianilos, Christopher	Administrative Lecturer		205,927	CY
Earnhart, Eric	Professional Lecturer		96,900	CY
Hooper, Elizabeth	Professional Lecturer		95,243	CY
Peterson, Cheryl	Professional Lecturer		96,900	CY
Sands, Timothy D.	Professional Lecturer		517,500	CY
Senior Fellow for Reso	urce Development			
Keeney, Michael	Postdoctoral Associate		45,000	CY
Keeney, Katherine	Professional Lecturer		65,000	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Center for Instructional	Development and Educat	tional Research		
Lusk, Danielle	Professional Lecturer		76,500	CY
Sandler, Patricia	Professional Lecturer		37,500	CY
Shoop, Tiffany	Professional Lecturer		68,290	CY
Center for Survey Rese	<u>arch</u>			
Willis, Susan	Senior Research Scientist	Director	88,189	CY
Center for the Arts				
Knapp, Richard	Administrative Professor		226,000	CY
Kavanaugh, Andrea	Senior Research Scientist		38,635	CY
Baum Walker, Liesl	Research Assistant Professor		68,037	CY
Bland, Susan	Professional Lecturer		64,669	CY
Boulter, Jonathan	Professional Lecturer		68,289	CY
Crutchfield, Margaret	Professional Lecturer		86,145	CY
Ducote, Heather	Professional Lecturer		89,091	CY
Ehrlich, David	Professional Lecturer		63,174	CY
Ginn, Raymond	Professional Lecturer		58,134	CY
Scharman, Elizabeth	Professional Lecturer		100,000	CY
Waalkes, Ruth	Professional Lecturer	Executive Director	194,000	CY
Witney, Douglas	Professional Lecturer		89,648	CY
Diversity and Inclusion				
Schnitzer, Marcy	Professional Lecturer		66,350	CY
Enrollment and Degree	<u>Management</u>			
Allen, Tracey	Professional Lecturer		51,533	CY
Daku, Lefter	Professional Lecturer		99,762	CY
Jacques, Jenise	Professional Lecturer		53,537	CY
Matthiessen, Alison	Professional Lecturer		54,173	CY
Means, Peter	Professional Lecturer		50,997	CY
Stoneking, Dawn	Professional Lecturer		67,007	CY
First Year Experience				
Lewis, Mary	Administrative Associate Prof	Assistant Provost	150,536	CY
Fisher, Megan	Professional Lecturer		67,925	CY
Orr, James	Professional Lecturer		89,200	CY
Institutional Research				
Bush, Kristen	Administrative Lecturer	Assistant Provost	117,330	CY
Catley, Dennis	Professional Lecturer		93,560	CY
Durodoye, Raifu	Professional Lecturer		61,658	CY
Gile, Roxanne	Professional Lecturer		86,148	CY
Hung, Chang Yu	Professional Lecturer		74,372	CY
McBee, Janice	Professional Lecturer		64,638	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Perez, Rebecca	Professional Lecturer		61,133	CY
Pleitz, Jacob	Professional Lecturer		59,500	CY
Voigt, Paul	Professional Lecturer		81,410	CY
Multicultural Academic	c Opportunity Program			
Hunter, Monica	Professional Lecturer	Associate Director	45,000	CY
Thompson, Jody	Professional Lecturer		71,533	CY
Office of Assessment	and Evaluation			
Culver, Steven	Administrative Lecturer	Assistant Provost	113,500	CY
Bodo, Bethany	Professional Lecturer		87,831	CY
Brunton, Kelsey	Professional Lecturer		41,220	CY
Farquhar-Caddell, Dakota	Professional Lecturer	New Student and Family Programs Coordinator	45,000	CY
Kniola, David	Professional Lecturer		67,782	CY
Laughlin, Anne	Professional Lecturer		58,978	CY
Office of Summer and	Winter Sessions			
Herndon, Michael	Administrative Lecturer	Director	87,161	CY
Administration				
Finney, Jack	Administrative Professor	Vice Provost	245,000	CY
McNamee, Mark	Administrative Professor	Senior Vice President and Provost	419,379	CY
Holloway, Rachel	Administrative Associate Prof	Vice Provost	185,500	CY
Daku, Feride	Administrative Lecturer		100,100	CY
Dean, Wanda	Administrative Lecturer	Vice Provost	204,000	CY
Hogan, Amy	Administrative Lecturer		112,000	CY
Layne, Margaret	Administrative Lecturer		103,600	CY
McConnell, Kathryne	Administrative Lecturer		81,600	CY
Plummer, Ellen	Administrative Lecturer	Assistant Provost	128,000	CY
Smith, Kenneth	Administrative Lecturer	Vice Provost	170,000	CY
Byrd, Christina	Professional Lecturer		56,100	CY
Coble, Zebulon	Professional Lecturer		100,300	CY
Earley, Jeffrey	Professional Lecturer		124,500	CY
Hertweck, Bryan	Professional Lecturer		66,200	CY
Mesfin, Mesfin	Professional Lecturer		45,000	CY
Moore, Vicky	Professional Lecturer		54,100	CY
Phillips, Alva	Professional Lecturer		61,880	CY
Stevens, Kenneth	Professional Lecturer		45,900	CY
Whitehurst, Stephen	Professional Lecturer		57,721	CY
Wood, Ashley	Professional Lecturer		56,500	CY
<u>Registrar</u>				
Cridlin, Clyde	Professional Instructor		72,864	CY
Bailey, Lynda	Professional Lecturer		54,220	CY
Costello, Gary	Professional Lecturer		61,791	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salar For 2015 - 2016	<u>Y</u> Appt
Gervais, Shayne	Professional Lecturer		120,000	CY
Sparks, Richard	Professional Lecturer	Associate Dean	120,000	CY
Student Athlete Aca	demic Support Services			
Armstrong, Sarah	Professional Lecturer		68,850	CY
Byrd, Cory	Professional Lecturer		46,659	CY
Gholston, Kendrick	Professional Lecturer		59,000	CY
Jones, Robyn	Professional Lecturer		46,125	CY
Mayotte, Matthew	Professional Lecturer		100,470	CY
Moore, Timothy	Professional Lecturer		44,532	CY
Swanhart, Michael	Professional Lecturer		56,375	CY
Vaccaro, Nicolas	Professional Lecturer		44,532	CY
The Student Succes	<u>ss</u>			
Sanders, Karen	Administrative Lecturer	Associate Vice Provost	166,000	CY
Campos, Mary Grace	Professional Lecturer		55,029	CY
Grimes, Jessica	Professional Lecturer		59,645	CY
Hyer, Nicholas	Professional Lecturer		41,000	CY
McGuire, Dana	Professional Lecturer		43,050	CY
Undergraduate Adm	nissions			
Johnson, Mildred	Administrative Instructor	Associate Vice Provost	136,663	CY
Boyd, Samantha	Professional Lecturer		51,972	CY
Costa, Lyndsey	Professional Lecturer		33,964	CY
Cripps, Haley	Professional Lecturer		37,500	CY
Espinoza, Juan	Professional Lecturer		87,158	CY
Garrett, Alphonso	Professional Lecturer		42,887	CY
Harris, Jennifer	Professional Lecturer		56,231	CY
LaPlante, Rebekah	Professional Lecturer		69,757	CY
Menter, Elizabeth	Professional Lecturer		35,100	CY
Milley, Steven	Professional Lecturer		52,685	CY
Rawlings, Kelly	Professional Lecturer		73,633	CY
St Jean, A	Professional Lecturer		45,657	CY
Todd, Jane	Professional Lecturer		39,716	CY
Wilson, Elizabeth	Professional Lecturer		42,271	CY
Undergraduate Stud	<u>lies</u>			
Lewis, Stephanie	Postdoctoral Associate		51,500	CY
Biscotte, Stephen	Professional Lecturer		62,882	CY
Swaby, Keri	Professional Lecturer		55,100	CY
University Academic	c Advising Center			
Smith, Kimberly	Administrative Lecturer	Director	101,268	CY
Bianco, Catherine	Professional Lecturer		38,010	CY
Bruce, Herbert	Professional Lecturer		59,600	CY

<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Chatham, Janice	Professional Lecturer		49,046	CY
Gay, Keith	Professional Lecturer		42.745	CY
Goetz, Helene	Professional Lecturer		62,047	CY
Johnson, Jason	Professional Lecturer		40,822	CY
Matuszek, Elaine	Professional Lecturer		63,100	CY
Sano-Franchini, Dominic	Professional Lecturer		43,250	CY
Thomas, Lauren	Professional Lecturer		40,640	CY
Varboncoeur, Lauren	Professional Lecturer		39,438	CY
Hairawaita Hanana Dua				
University Honors Pro			40.000	A.\/
Tunno, Patrick	Professional Instructor		43,860	AY
Laib, Andria	Professional Lecturer		28,000	CY
McIntyre, Christina	Professional Lecturer		86,807	CY
Shrader, Russell	Professional Lecturer		54,313	CY
Smith, Amber	Professional Lecturer		42,024	CY
Vandyke, Sara	Professional Lecturer		43,286	CY
University Scholarshi	ps and Financial Aid			
Armstrong, Elizabeth	Professional Lecturer		142,024	CY
Breeding, Stephanie	Professional Lecturer		50,872	CY
Clements, Stephanie	Professional Lecturer		63,143	CY
Hammond, Matthew	Professional Lecturer		50,786	CY
Meehan, Wendy	Professional Lecturer		61,560	CY
Schweighart, Matthew	Professional Lecturer		46,170	CY
Virginia Tech Carilion	Health and Medical Education	<u>on</u>		
Ely, Susan	Professor		131,000	CY
Carvalho, Helena	Assistant Professor		96,500	CY
LaConte, Leslie E	Assistant Professor		103,500	CY
Women's Center				
Harrington, Kelsey	Professional Lecturer		42,000	CY
LoMascolo, Anna	Professional Lecturer		72,500	CY
Meltsner, Jessica	Professional Lecturer		15,500	AY
Mey, Katelin	Professional Lecturer		40,000	CY
Smith, Christine	Professional Lecturer		69,000	CY
Valatka, Sarah	Professional Lecturer		48,900	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
University Americans v	vith Disabilities Act Progr	<u>am</u>		
Vickers, Pamela	Professional Lecturer		69,625	CY
Assistant Vice Presider	nt for Business Services			
Wilkes, Lisa	Administrative Lecturer	Assistant Vice President	204,600	CY
Akers, Kimberly	Professional Lecturer	Assistant vice i resident	52,403	CY
Air Transportation Serv	<u>vices</u>			
Berry, Michael	Professional Lecturer		84,150	CY
Tittinger, James	Professional Lecturer		89,760	CY
Volk, Adam	Professional Lecturer		71,400	CY
Wright, James	Professional Lecturer		72,500	CY
Business Services				
McCoy, Robin	Professional Lecturer		73,901	CY
Campus Mail Center				
McCoy, Virginia	Professional Lecturer		71,406	CY
<u>Human Resources</u>				
Chambers, Yohna	Administrative Lecturer		160,352	CY
Irvin, Andrew	Administrative Lecturer	Associate Vice President	206,268	CY
Cronley, Ann	Professional Lecturer		61,763	CY
Cumberland, Jeffrey	Professional Lecturer		53,500	CY
Irvin, Rodney	Professional Lecturer		90,083	CY
King, Angela	Professional Lecturer		112,015	CY
Kropff, Catherine	Professional Lecturer		81,374	CY
Leftwich, Sara	Professional Lecturer		66,033	CY
Luketic, Christine	Professional Lecturer		81,297	CY
Mabry, Curtis	Professional Lecturer		94,295	CY
McCoy, Michael	Professional Lecturer		63,490	CY
Petry, Catherine	Professional Lecturer		76,280	CY
Wehner, Kirk	Professional Lecturer		127,532	CY
Emergency Manageme	<u>nt</u>			
Mulhare, Michael	Administrative Lecturer		152,029	CY
Marinik, Andrew	Professional Lecturer		65,882	CY
Environmental Health a	and Safety			
Franklin, Lance	Administrative Lecturer		160,771	CY
Coluni, Maribeth	Professional Lecturer		62,281	CY
Conner, Donald	Professional Lecturer		66,940	CY
Imperatore, Frank	Professional Lecturer		70,174	CY
Kroner, Anna	Professional Lecturer		62,793	CY
Layman, Rachel	Professional Lecturer		63,251	CY

Nama	Donk	Title	Recommended Salary	Annt
<u>Name</u>	Rank	<u>Title</u>	For 2015 - 2016	<u>Appt</u>
Lowe, Robert	Professional Lecturer		64,617	CY
McCall-Miller, Robin	Professional Lecturer		63,535	CY
Mondy, Bernadette	Professional Lecturer		86,264	CY
Pegues, Valerie	Professional Lecturer		56,576	CY
Ritenour, Joey	Professional Lecturer		47,691	CY
Smiley, Douglas	Professional Lecturer		93,508	CY
Soni, Shilpa	Professional Lecturer		57,924	CY
Stevens-Mauldon, Susan	Professional Lecturer		49,427	CY
Waggoner, Charlotte	Professional Lecturer		84,782	CY
Williams, Jeremy	Professional Lecturer		55,992	CY
Equity and Access				
White, Pamela	Administrative Lecturer		131,274	CY
Arthur, Nikeshia	Professional Lecturer		60,000	CY
Moore, Karisa	Professional Lecturer		94,784	CY
Robinson, Dale	Professional Lecturer		74,460	CY
Facilities Services Ass	ociate Vice President and	Chief Facilities Office		
Kiwus, Christopher	Administrative Lecturer	<u> </u>	227,700	CY
McCoy, Heidi	Professional Lecturer	Deputy Chief Facilities Officer	160,435	CY
Widody, Ficial	1 Totossional Ecotator	Bepaty Officer actitions officer	100,400	01
Facilities Services Dep	uty Chief Facilities Office			
Avis, Kimberly	Professional Lecturer		70,298	CY
Ball, Robin	Professional Lecturer		80,935	CY
Crane, Joseph	Professional Lecturer		70,298	CY
Hansen, Elizabeth	Professional Lecturer		84,252	CY
Stanford, Brian	Professional Lecturer		47,392	CY
Winters, Gregory	Professional Lecturer		45,286	CY
Facilities Services Faci	lities Operations			
Avagyan, Ruben	Professional Lecturer		94,784	CY
Dietz, Charles	Professional Lecturer		85,095	CY
Helms, Mark	Professional Lecturer		171,952	CY
Nichols, Byron	Professional Lecturer		111,606	CY
Facilities Services Offic	ce of University Planning			
Cochrane, Dennis	Administrative Lecturer		80,944	CY
Dunn, Michael				CY
,	Professional Lecturer		80,141	
Mouras, Steven	Professional Lecturer		123,934	CY
Shelton, Jason	Professional Lecturer		70,663	CY
Soileau, Jason	Professional Lecturer		158,902	CY
Facilities Services Univ	versity Building Official			
Hinson, William	Administrative Lecturer		119,842	CY
Hagedorn, James	Professional Lecturer		85,619	CY

Name	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Smith, Steven	Professional Lecturer		83,940	CY
Zokaites, Joseph	Professional Lecturer		83,940	CY
Facilities Services Univ	ersity Design and Constru	<u>uction</u>		
Chinn, David	Professional Lecturer		88,651	CY
Curfiss, Aaron	Professional Lecturer		84,021	CY
Hoeflein, Joseph	Professional Lecturer		82,395	CY
McCoy, James	Professional Lecturer		97,263	CY
Facilities Services Univ	ersity Design and Constru	uction - Administration		
Hager, Monte	Professional Lecturer	detion - Administration	96,530	CY
LaClair, Leigh	Professional Lecturer	Director of University Design and Construction	181,154	CY
			,	
Facilities Services Virgi	nia Tech Electric Service			
Hagy, Carl	Professional Lecturer		78,971	CY
Short, Lynn	Professional Lecturer		81,329	CY
-	/ for Administrative Service	<u>ces</u>	=0.00 =	0) (
Altman, Jennifer	Professional Lecturer		59,305	CY
Beckett, Malcolm	Professional Lecturer		108,430	CY
Judy, Aaron McElroy, Tracy	Professional Lecturer Professional Lecturer		50,069 88,929	CY
Smith, Adam	Professional Lecturer		48,967	CY
Thomas, Jonathan	Professional Lecturer		71,050	CY
,			. ,,	
Organizational Develop	<u>ment</u>			
Baker-Lloyd, Lori	Administrative Lecturer		133,239	CY
Cohen, Alicia	Professional Lecturer		77,226	CY
Deramo, Michele	Professional Lecturer	Director	77,933	CY
MacQueen, James	Professional Lecturer		67,354	CY
Massey, John	Professional Lecturer		94,295	CY
Mecham, Ross	Professional Lecturer		84,252	CY
Parking Services				
Freed, Deborah	Professional Lecturer		77,617	CY
McCoy, Richard	Professional Lecturer		94,039	CY
•				
<u>Police</u>				
Foust, Kevin	Administrative Lecturer	Chief of Police	150,074	CY
Lau, Jamie	Professional Lecturer		73,721	CY
Tuell, Chassidy	Professional Lecturer		39,620	CY
Vice President for Adm	inistration			
·			130,000	CY
Kates, Angela	Administrative Lecturer		130,000	O I

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Wilson, Sherwood	Administrative Lecturer	Vice President	302,256	CY
Smith, Kayla	Professional Lecturer		67,681	CY
Spieldenner, Robert	Professional Lecturer		61,460	CY

Vice President and Executive Director, National Capital Region

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
National Capital Region	<u>Operations</u>			
McKnight, Steven	Administrative Professor	Vice President	264,000	CY
Stone, Nicholas	Professor		144,757	CY
Brown, Robert	Professional Lecturer		64,921	CY
Davenport, Justin	Professional Lecturer		106,824	CY
Murphy, Dianka	Professional Lecturer		90,202	CY
Sorensen, Mark	Professional Lecturer		72,658	CY
Research Development Team				
Raman, Sanjay	Professor		229,411	CY
Murch, Randall	Professional Lecturer		220,994	CY

Vice President for Finance and Chief Financial Officer

<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Budget and Financial P	lanning			
Hodge, Timothy	Administrative Lecturer	Assistant Vice President	196,000	CY
Hundley, Travis	Administrative Lecturer	Associate Director for Budget Operations	105,368	CY
Bartlett, Christopher	Professional Lecturer	Financial Planning Analyst	54,500	CY
Cox, Amberson	Professional Lecturer	Budget Analyst	53,600	CY
Gabriele, Rachel	Professional Lecturer	Assistant to AVP/Special Projects Manager	71,630	CY
Hagerman, Cortney	Professional Lecturer	Budget Manager	74,256	CY
Heath, Harvey	Professional Lecturer	Budget Manager	72,874	CY
Hillman, James	Professional Lecturer	Budget Manager	75,960	CY
Page, Angela	Professional Lecturer	Budget Analyst	63,500	CY
Shepard, Brennan	Professional Lecturer	Associate Director for Financial Planning	94,400	CY
VandeVord, Todd	Professional Lecturer	Sr. Financial Planning Analyst	65,903	CY
Finance and Foundation	ո Support - Administratior	<u>1</u>		
Meacham, Nancy	Professional Lecturer	Project Manager	67,221	CY
Investments and Debt M	lanagement			
Cusimano, John	Administrative Lecturer	University Treasurer and Associate Vice President	239,200	CY
<u>Bursar</u>				
West, Melinda	Administrative Lecturer	University Bursar	119,000	CY
Low, Jesse	Professional Lecturer	Account Analyst	44,160	CY
Shen, Wenqi	Professional Lecturer	E-Commerce Operations Manager	66,268	CY
Procurement				
Helmick, Mary	Administrative Lecturer	Director of Procurement	134,640	CY
Porter, Kathey	Professional Lecturer	Assistant Director for Supplier Diversity	71,925	CY
Sutphin, Bonnie	Professional Lecturer	Associate Director for Operations	99,450	CY
Risk Management				
Douglas, Ellen	Professional Lecturer	Director of Risk Management	109,845	CY
Controller				
Miller, Kenneth	Administrative Lecturer	Assistant Vice President for Finance and Controller	211,500	CY
Alexander, Diana	Professional Lecturer	Cost Accounting Manager	66,170	CY
Connelly, Alexis	Professional Lecturer	Assistant Payroll Manager	62,565	CY
Kershner, Michael	Professional Lecturer	Accounts Payable Manager	75,428	CY
King, Stacy	Professional Lecturer	General Accounting Manager	81,549	CY
Linkous, Carla	Professional Lecturer	Financial Analyst/Asst. ARMICS Coordinator	42,350	CY
Saylors, Rebekah	Professional Lecturer	Manager of Fixed Assets	82,425	CY
Schoner, Jenni	Professional Lecturer	Senior Programmer Analyst	70,608	CY
Shelor, Leisa	Professional Lecturer	Payroll Manager	84,274	CY
Smith, Brian	Professional Lecturer	Internal Controls Director/ARMICS Coordinator	78,937	CY
Starling, Barbara	Professional Lecturer	Associate Controller	96,995	CY

Vice President for Finance and Chief Financial Officer

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Vest, Wendell	Professional Lecturer	Associate Controller, Accounting Operations	132,000	CY
Internal Audit				
Kurek, Sharon	Administrative Lecturer	Director of Internal Audit	179,375	CY
Abplanalp, William	Professional Lecturer	Audit Manager	89,031	CY
Daniels, Brian	Professional Lecturer	Associate Director - Internal Audit	128,269	CY
Davis, Gannon	Professional Lecturer	Senior Auditor	67,007	CY
Vice President for Final	<u>1Ce</u>			
Broyden, Robert	Administrative Lecturer	Assistant Vice President	165,100	CY
Shelton, Millard	Administrative Lecturer	Vice President	326,477	CY
Belcher, William	Professional Lecturer	University Coordinator of Business Practices	94,600	CY
Campbell, Allen	Professional Lecturer	Director of Finance Information Technology	120,700	CY
Crotts, David	Professional Lecturer	Assistant Director	86,000	CY
Greer, Deborah	Professional Lecturer	Business Manager	71,330	CY
Huff, Stephen	Professional Lecturer	IT Manager - Bursar Office	52,500	CY
Hundley, Jennifer	Professional Lecturer	Capital Program Budget Manager	73,790	CY
Mann, Robert	Professional Lecturer	Assistant Director of Capital Assets	84,373	CY
Sharma, Savita	Professional Lecturer	Chief of Staff	110,000	CY
Sherman, Christopher	Professional Lecturer	Lead Developer for Financial Applications	69,250	CY
Sumpter, Jerry	Professional Lecturer	Assistant Director of Finance Information Technology	90,700	CY

Vice President for Development and University Relations

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>/</u> Appt
Licensing and Trade	mark Administration			
Cole, Kristan	Professional Lecturer		70,000	CY
University Developm	<u>ent</u>			
Arsenault, Rhonda	Administrative Lecturer	Associate Vice President	221,400	CY
Corvin, Thimothy	Administrative Lecturer	Senior Associate Vice President	281,124	CY
Gargagliano, Richard	Administrative Lecturer		103,380	CY
Adams, Steven	Professional Lecturer		66,825	CY
Allen, Wallace	Professional Lecturer		91,677	CY
Ashton, Julianna	Professional Lecturer		106,000	CY
Badey, Lois	Professional Lecturer		131,325	CY
Bailey, Robert	Professional Lecturer		103,460	CY
Bassett, Eddie	Professional Lecturer		90,500	CY
Bauman, Nena	Professional Lecturer		127,500	CY
Bolt, Terry	Professional Lecturer		108,557	CY
Christopoulos, Kim	Professional Lecturer		80,386	CY
Clark, Karin	Professional Lecturer		62,424	CY
Clough, Jessica	Professional Lecturer		49,939	CY
Crockett, Crystal	Professional Lecturer		82,595	CY
Davis, A Scott	Professional Lecturer		77,675	CY
Dorman, Rachel	Professional Lecturer		41,820	CY
Edwards, Erin	Professional Lecturer		136,729	CY
Everett, David	Professional Lecturer		114,119	CY
Frazier, Thomas	Professional Lecturer		42,228	CY
Fritz, Alex	Professional Lecturer		106,723	CY
Gladchuk, John	Professional Lecturer		114,083	CY
Good, Ciji	Professional Lecturer		64,202	CY
Grove, Benjamin	Professional Lecturer		80,569	CY
Grove, James	Professional Lecturer		69,834	CY
Hamilton, Deborah	Professional Lecturer		103,161	CY
Hill, Benjamin	Professional Lecturer		69,170	CY
Holden, Randy	Professional Lecturer		97,653	CY
Howland, Timothy	Professional Lecturer	Associate Director	89,356	CY
Hughes, Scott	Professional Lecturer		42,228	CY
Hutchins, Emily	Professional Lecturer		82,192	CY
Kaplan, Kathleen	Professional Lecturer		83,232	CY
Kauhane, Brianna	Professional Lecturer		83,190	CY
Kobia, Holly	Professional Lecturer	Assistant Director, Development	74,475	CY
Lambert, Margaret	Professional Lecturer		63,187	CY
Lillard, Gerald	Professional Lecturer		91,594	CY
Lyman, Robert	Professional Lecturer		60,195	CY
Martin, Karina	Professional Lecturer		103,785	CY
McBride, Elizabeth	Professional Lecturer		103,721	CY
Meacham, Vernon	Professional Lecturer		110,925	CY
Merritt, Lucius	Professional Lecturer		151,266	CY
Miers, Jerrad	Professional Lecturer		83,320	CY

Vice President for Development and University Relations

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Minter, Ryan	Professional Lecturer		40,800	CY
Mitchell, Carl	Professional Lecturer		73,950	CY
Mosby, Justin	Professional Lecturer		68,330	CY
Motley, Irene	Professional Lecturer		94,501	CY
Mullins, Amanda	Professional Lecturer		44,339	CY
Orzolek, Jennifer	Professional Lecturer	Director of Development	113,006	CY
Price, Wynoka Ann	Professional Lecturer		85,573	CY
Raboteau, Albert	Professional Lecturer		71,193	CY
Russell, Mark	Professional Lecturer		56,650	CY
Sanders, Jocelyn	Professional Lecturer	Director, Development	98,677	CY
Short, Adam	Professional Lecturer		76,500	CY
Smythers, Robert	Professional Lecturer		112,030	CY
Spracher, David	Professional Lecturer		80,838	CY
Stacy, Erica	Professional Lecturer		56,732	CY
Stewart, JMahl	Professional Lecturer		76,500	CY
Strosnider, Nancy	Professional Lecturer		90,925	CY
Tawney, Janice	Professional Lecturer		67,000	CY
Vaillancourt, Hillary	Professional Lecturer		50,674	CY
Vidmar, Anthony	Professional Lecturer	Assistant Vice President	152,935	CY
Wagner, Nicole	Professional Lecturer		92,879	CY
Weaver, Kevin	Professional Lecturer		88,001	CY
Weddle, Lonnie	Professional Lecturer		79,741	CY
Wong, Emily	Professional Lecturer	Associate Director of Development	60,000	CY
University Relations				
Hincker, Lawrence	Administrative Instructor	Associate Vice President	218,557	CY
Owczarski, Mark	Administrative Lecturer	, localita vice i resident	110,165	CY
Brunais, Andrea	Professional Lecturer		68,480	CY
Byron, Paula	Professional Lecturer		99,291	CY
Crichton, Juliet	Professional Lecturer		53,236	CY
Crow, Cecelia	Professional Lecturer		71,248	CY
Durham, Joseph	Professional Lecturer		101,076	CY
Gehrt, Catherine	Professional Lecturer	Communications Director	72,750	CY
Gleixner, Glenn	Professional Lecturer		113,707	CY
Gray, Cynthia	Professional Lecturer		75,620	CY
Henderson, Jarrad	Professional Lecturer		49,980	CY
Henson, Connie	Professional Lecturer		63,293	CY
Jackson, John	Professional Lecturer		96,130	CY
Jackson, Joshua	Professional Lecturer		79,560	CY
Lemire, Edmund	Professional Lecturer		58,064	CY
Lovegrove, Richard	Professional Lecturer		59,160	CY
Micale, Barbara	Professional Lecturer		75,604	CY
Neff-Henderson, Laura	Professional Lecturer		61,687	CY
Norris, Bobbie	Professional Lecturer		86,323	CY
Parker, Jonathan	Professional Lecturer		45,737	CY
Pastor, John	Professional Lecturer		82,467	CY

Vice President for Development and University Relations

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Stith, Randall	Professional Lecturer		103,712	CY
Stowe, Michael	Professional Lecturer		71,400	CY
Tuel, Jesse	Professional Lecturer		64,450	CY
Whaley, Sherrie	Professional Lecturer		71,937	CY
White, Steven	Professional Lecturer		62,475	CY
Vice President for Deve	lopment			
Flanagan, Elizabeth	Administrative Lecturer	Vice President	327,912	CY
Hayes, Angela	Professional Lecturer		109,945	CY

Vice President for Outreach and International Affairs

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Continuing and Profes	sional Development			
Burnette, Donna	Professional Lecturer		87,557	CY
Carter, Jennifer	Professional Lecturer		87,344	CY
Cruikshank, Dana	Professional Lecturer		61,200	CY
Earnest, Madison	Professional Lecturer		63,066	CY
Jobst, Shelly	Professional Lecturer		86,396	CY
Mahaney, Lisa	Professional Lecturer		55,105	CY
Weimer, Scott	Professional Lecturer		107,675	CY
Williams, Holly	Professional Lecturer		65,006	CY
Bateman, Tanner	Sr Project Associate		65,679	CY
Center for Organization	nal and Technological Ad	<u>vancement</u>		
Morgan, Neil	Professional Lecturer		131,820	CY
Economic Developmen	<u>nt</u>			
Lyon-Hill, Sarah	Professional Lecturer		43,860	CY
Mohammed, Afroze	Professional Lecturer		98,475	CY
Provo, John	Professional Lecturer		129,713	CY
Tate, Anthony	Professional Lecturer		69,530	CY
Engagement Administ	<u>ration</u>			
Short, Susan	Administrative Lecturer	Associate Vice President	169,733	CY
Gruber, Nancy	Professional Lecturer		87,488	CY
Global Education Offic	<u>e</u>			
Conde, Rommelyn	Professional Lecturer		47,300	CY
Fitzgerald, Rachel	Professional Lecturer		48,246	CY
Johansson, Theresa	Professional Lecturer		85,000	CY
Pruitt, William	Professional Lecturer		48,923	CY
International Research	Education and Developm	<u>nent</u>		
Christie, Maria Elisa	Research Scientist		92,136	CY
Moore, Keith	Research Scientist		130,712	CY
Van Houweling, Emily	Research Scientist		66,788	CY
Vaughan, Larry	Research Scientist		101,274	CY
Ball, Gene	Professional Lecturer		90,366	CY
Foreman, James	Professional Lecturer		79,390	CY
Hassouna, Khaled	Professional Lecturer		67,759	CY
Lizan, Anthony	Professional Lecturer		41,100	CY
Parks, Mary	Project Associate		40,900	CY
Ares, Adrian	Project Director		87,700	CY
Muniappan, Rangaswamy	Project Director		112,146	CY
Fayad, Amer	Senior Research Associate		72,130	CY
Richter, Kurt	Senior Research Associate		78,000	CY
Mullei, Maria	Sr Project Associate		98,874	CY

Vice President for Outreach and International Affairs

Name	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Neilan, Angela	Sr Project Associate	<u>1100</u>	80,225	CY
Rich, Miriam	Sr Project Associate		66,300	CY
ruon, windin	of Froject / issociate		00,000	O1
International Support S	<u>ervices</u>			
Leuschner, Ian	Administrative Lecturer		77,820	CY
LoJacono, Mollie	Professional Lecturer		50,347	CY
Language and Culture I	<u>nstitute</u>			
Bobal, Christine	Instructor		40,778	AY
Capone, Caitlin	Instructor		37,111	AY
Chrisman, Ada	Instructor		37,111	AY
Freday, Mary	Instructor		39,634	AY
Ghaderi, Aniseh	Instructor		43,501	AY
Gurdal, Pinar	Instructor		42,251	AY
Massey, Elizabeth	Instructor		38,000	AY
Moore, Donita	Instructor		40,239	AY
Offenberger, Kama	Instructor		37,093	AY
Shuvalova, Tetiana	Instructor		37,000	AY
Tan, Melissa	Instructor		38,563	AY
Back, Donald	Professional Lecturer		102,273	CY
Bowles, Elizabeth	Professional Lecturer		58,406	CY
Bratichko, Guennadi	Professional Lecturer		54,312	CY
Dandrow, Charlene	Professional Lecturer		60,469	CY
Ducote, Bryan	Professional Lecturer		71,528	CY
Gerbatch, Daniel	Professional Lecturer		46,238	CY
Mathieson, Richard	Professional Lecturer		52,814	CY
Moore, Eric	Professional Lecturer		56,974	CY
Neu, Susan	Professional Lecturer		47,685	CY
Paredes, Elsie	Professional Lecturer		63,624	CY
Schreiber, Sondra	Professional Lecturer		48,792	CY
Smart-Smith, Pamela	Professional Lecturer		54,312	CY
Todd, Andrea	Professional Lecturer		75,196	CY
Reynolds Homestead				
Steele, Julie	Professional Lecturer		76,608	CY
Richmond Center				
Lubin, Melissa	Professional Lecturer		114,437	CY
TRiO Programs				
Lyle, Joseph	Project Associate		44,989	CY
Neely, Jerald	Project Associate		42,806	CY
Puryear, Jason	Project Associate Project Associate		41,600	CY
Scott, Arlethea	Project Associate Project Associate		42,953	CY
Umbarger-Wells, Sarah	Project Associate		45,686	CY
Chibarger Weils, Caran	1 Tojout / tooodate		-10,000	01

Vice President for Outreach and International Affairs

<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>	
Andrews, Kimberly	Project Director		72,491	CY	
The Inn at Virginia Tech Wash, Artis	and Skelton Conference	<u>Center</u>	67,320	CY	
Vice President for Outre	each - Administration				
Ghosh, Guruprasad	Administrative Lecturer	Vice President	212,000	CY	
Swan, Jane	Administrative Lecturer		111,220	CY	
Farmer, Scott	Professional Lecturer		92,022	CY	
Virginia Tech Roanoke Center					
Nease, Joshua	Project Associate		43,708	CY	

Vice President Alumni Relations

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Alumni Association				
Day, Deborah	Administrative Lecturer	Associate Vice President	120,500	CY
Lewis, William	Administrative Lecturer		169,728	CY
Tillar, Thomas	Administrative Lecturer	Vice President	290,700	CY
Bain, Carolyn	Professional Lecturer	Director, College of Engineering Alumni	54,400	CY
Cowell-Lucero, Jamie	Professional Lecturer	Director of CALS Alumni	64,000	CY
Fansler, Gregory	Professional Lecturer	Senior Associate Director and Director of Marketing	76,050	CY
Gilbert, Bonnie	Professional Lecturer	Director of Pamplin COB Alumni	67,500	CY
Harrington, Gwen	Professional Lecturer	Assistant Director, Tours and Sponsorships	49,550	CY
Hunt, David	Professional Lecturer	Communications Manager	54,071	CY
Hutcheson, John	Professional Lecturer	Director of NCR Alumni Relations	73,500	CY
Lafon, Katherine	Professional Lecturer	Director of Alumni Relations	53,955	CY
Marquis, Raleigh	Professional Lecturer		51,000	CY
McCauley, Jordan	Professional Lecturer	Assistant Director	45,100	CY
Mills, Angela	Professional Lecturer	Director of CLAHS Alumni	54,757	CY
Young, Anne	Professional Lecturer	Director of Vet Medicine College Alumni	65,275	CY
de Hahn, Tracee	Professional Lecturer		56,100	CY
Alumni Relations				
McCann, Kelly	Professional Lecturer	Assistant Director, Family Relations	47,950	CY
Walker, Latanya	Professional Lecturer	Director of Multicutlural Alumni Programs	54,100	CY

Name_	<u>Rank</u>	Title	Recommended Salary For 2015 - 2016	Appt
Animal Care				
Robert, Barry	Administrative Lecturer		186,860	CY
Lindstrom, Nicole	Professional Lecturer		96,200	CY
Fralin Life Science Inst	<u>titute</u>			
Clarke, Jean	Professional Lecturer		79,560	CY
Hirt, Oliver	Professional Lecturer		78,983	CY
Key, Lindsay	Professional Lecturer		59,111	CY
Webster, Janet	Professional Lecturer		96,863	CY
Schoenholtz, Gloria	Research Associate		53,500	CY
Ball, Donald	Senior Research Associate		80,610	CY
DeCourcy, Kristi	Senior Research Associate		74,730	CY
Huma Cantar				
Hume Center	Daggarah Drofessor		206 242	CV
McGwier, Robert	Research Professor		206,312	CY CY
Trease, Harold	Senior Research Scientist Research Scientist		175,000	
Abdel Hadi, Ahmed			72,940	CY CY
Gantt, Kira	Professional Lecturer		90,000	CY
Thompson, Christie	Professional Lecturer		116,699 65,000	CY
Rowe, Sonya Sprick, Jonathan	Project Associate Project Associate		130,000	CY
DePoy, Daniel	Research Associate		72,450	CY
Karra, Kiran	Research Associate		114,440	CY
Leffke, Zachary	Research Associate		85,877	CY
O'Shea, Timothy	Research Associate		147,756	CY
Sterne, Kevin	Research Associate		72,450	CY
Ziegler, Joseph	Research Associate		130,037	CY
Ernst, Joseph	Senior Research Associate		102,548	CY
Fowler, Michael	Senior Research Associate		104,158	CY
Goodwin, Mark	Senior Research Associate		177,320	CY
Koehn, Thaddeus	Senior Research Associate		118,061	CY
Vondal, Matthew	Senior Research Associate		134,000	CY
Waltz, Edward	Senior Research Associate		210,000	CY
Callsen, Christine	Sr Project Associate		74,100	CY
Graham, Justus	Sr Project Associate		114,480	CY
Hutton, Claude	Sr Project Associate		140,039	CY
Poetter, Alexandra	Sr Project Associate		96,163	CY
Pokorski, James	Sr Project Associate		99,517	CY
	chnology and Applied Sci			
Mahajan, Roop	Administrative Professor	Director and Endowed Professor	385,593	CY
Vance, Marina	Research Scientist		53,173	CY
Craig, Ann	Professional Lecturer		134,682	CY
Greene, Jon	Professional Lecturer		180,857	CY
Maxey, Dawn	Professional Lecturer		71,822	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Mooney, Rose	Professional Lecturer		230,050	CY
Nelsen, Eleanor	Professional Lecturer		56,100	CY
Tomlin, Jennifer	Project Associate		70,212	CY
Wade, Melissa	Project Associate		59,486	CY
Burton, Matthew	Research Associate		71,000	CY
Coggin, John	Senior Research Associate		89,957	CY
McCartney, Stephen	Senior Research Associate		75,167	CY
Winkler, Christopher	Senior Research Associate		76,079	CY
Beeby, Jeffrey	Sr Project Associate		99,224	CY
Grove, Dennis	Sr Project Associate		92,863	CY
Hull, Matthew	Sr Project Associate		101,186	CY
Tysor, Christine	Sr Project Associate	Project Manager	80,583	CY
Walker, Christopher	Sr Project Associate		82,600	CY
Institute for Society, Cu	Iture, and Environment			
Orden, David	Professional Professor		170,906	CY
Macromolecules and Int	torfaces			
Long, Timothy	Professor	Director of MII	232,505	CY
Long, Timothy	FTOTESSOI	Director or will	232,303	O1
Office of Research Com	pliance			
Moore, David	Professional Associate Prof	Associate Vice President	193,750	CY
Allen, Regina	Professional Lecturer		61,277	CY
Brady, David	Professional Lecturer		119,986	CY
Chen, Ling	Professional Lecturer		51,200	CY
Kendrick, Michael	Professional Lecturer		72,697	CY
Leake, Timothy	Professional Lecturer		92,420	CY
Lucero, Warren	Professional Lecturer		64,716	CY
Papenfuss, Carmen	Professional Lecturer		73,849	CY
Talerico, John	Professional Lecturer		79,175	CY
Trent, Jewel	Professional Lecturer		51,900	CY
Trout, Stephanie	Professional Lecturer		62,878	CY
•	ary Program- Administrati		000 000	0.1
Ekkad, Srinath	Administrative Professor	Associate VP for Research and Endowed Professor	229,900	CY
Walters, Robert	Administrative Professor	Vice President	293,800	CY
Bucy, Linda	Administrative Lecturer	Assistant Vice President	152,935	CY
Byrd, Kimberly	Professional Lecturer		76,875	CY
Cuskovic, Amel	Professional Lecturer		65,660	CY
Daniel, Martin	Professional Lecturer		177,500	CY
Degnan, Megan	Professional Lecturer		52,500	CY
Dunavant, Christopher	Professional Lecturer		97,812	CY
Hall, Machelle	Professional Lecturer		84,100	CY
Memisyazici, Aras	Professional Lecturer		69,852	CY
Muse, Sandra	Professional Lecturer		103,158	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Ratcliffe, Victoria	Professional Lecturer		75,368	CY
Sedlak, Neil	Professional Lecturer		107,002	CY
Spangler, Cynthia	Professional Lecturer		85,500	CY
Swift, Matthew	Professional Lecturer		139,161	CY
Tranter, Elizabeth	Professional Lecturer	Associate Vice President for Research Planning	137,949	CY
Sponsored Programs				
Amin, Divyabala	Professional Lecturer		78,797	CY
Cochrane, Christina	Professional Lecturer		66,300	CY
Cutlip, Michael	Professional Lecturer		42,575	CY
Davis, Nevada	Professional Lecturer		56,610	CY
Farmer, Shannell	Professional Lecturer		68,391	CY
Fitzgerald, Cecil	Professional Lecturer		88,230	CY
Hillman, Emilee	Professional Lecturer		55,500	CY
King, Michael	Professional Lecturer		77,847	CY
Lee, Kangja	Professional Lecturer		59,313	CY
Linkous, Kimberly	Professional Lecturer		86,358	CY
Lovell, Britton	Professional Lecturer		66,300	CY
Magruder, Lauren	Professional Lecturer		90,041	CY
Rudd, John	Professional Lecturer	Assistant Vice President for Sponsored Programs	157,965	CY
Steen, Anna	Professional Lecturer		66,885	CY
Thompson, Cory	Professional Lecturer		59,785	CY
Wright, Emmett	Professional Lecturer		55,284	CY
Technology Transfer				
Bonadeo, Mary Ann	Professional Lecturer		61,200	CY
Brewer, Grant	Professional Lecturer		100,776	CY
Chen, Li	Professional Lecturer		83,844	CY
Miller, Michael	Professional Lecturer		112,200	CY
Whitehead, Robert	Professional Lecturer		112,200	CY
Virginia Tech Carilion R	Research Institute			
Friedlander, Michael	Administrative Professor	Executive Director	491,000	CY
Bickel, Warren	Professor	Professor	405,438	CY
Gourdie, Robert	Professor	Professor	266,500	CY
Montague, Pendleton	Professor	Professor	468,465	CY
Ramey, Craig	Research Professor	Research Professor	358,688	CY
Ramey, Sharon	Research Professor	Research Professor	371,099	CY
Fox, Michael	Associate Professor		138,923	CY
LaConte, Stephen	Associate Professor		178,162	CY
Poelzing, Steven	Associate Professor		129,780	CY
Chen, Jiang	Research Scientist		54,753	CY
Kishida, Kenneth	Research Scientist		81,039	CY
McDonald, Paul	Research Scientist		51,500	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Zeitz, Michael	Research Scientist		57,240	CY
Chappell, John	Assistant Professor		113,300	CY
Chiu, Pearl	Assistant Professor		151,926	CY
Kelly, Deborah	Assistant Professor		136,141	CY
King-Casas, Brooks	Assistant Professor		151,192	CY
McDonald, Sarah	Assistant Professor		129,376	CY
Moran, Rosalyn	Assistant Professor		116,982	CY
Morozov, Alexei	Assistant Professor		137,581	CY
Mukherjee, Konark	Assistant Professor		123,581	CY
Oestreich, Kenneth	Assistant Professor		117,832	CY
Sheng, Zhi	Assistant Professor		120,306	CY
Smyth, James	Assistant Professor		113,300	CY
Valdez, Gregorio	Assistant Professor		124,324	CY
Boudreaux, Crystal	Postdoctoral Associate		47,700	CY
Donga Vilares, Iris	Postdoctoral Associate		54,000	CY
Gilbert, Jessica	Postdoctoral Associate		59,740	CY
Hoeker, Gregory	Postdoctoral Associate		41,400	CY
Liu, Lei	Postdoctoral Associate		45,000	CY
Quisenberry, Amanda	Postdoctoral Associate		48,786	CY
Snider, Sarah	Postdoctoral Associate		47,250	CY
Solway, Alec	Postdoctoral Associate		48,000	CY
Taetzsch, Thomas	Postdoctoral Associate		42,000	CY
Tenga, Milagros	Postdoctoral Associate		46,513	CY
Van Wart, Audra	Professional Assistant Prof		95,033	CY
DeLuca, Stephanie	Research Assistant Professor		117,832	CY
Fischer, Quentin	Research Assistant Professor		76,589	CY
Ismailov, Iskander	Research Assistant Professor		71,441	CY
Ito, Wataru	Research Assistant Professor		111,755	CY
Kalikulov, Djanenkhodja	Research Assistant Professor		80,698	CY
Koffarnus, Mikhail	Research Assistant Professor		100,629	CY
Lamouille, Samy	Research Assistant Professor		91,800	CY
Lohrenz, Terry	Research Assistant Professor		128,719	CY
Srivastava, Sarika	Research Assistant Professor		63,648	CY
Su, Jianmin	Research Assistant Professor		70,380	CY
Wu, Jianping	Research Assistant Professor		77,711	CY
Akers, Aaron	Professional Lecturer		62,160	CY
Cook, Sherri	Professional Lecturer		166,398	CY
Lindberg, Andrew	Professional Lecturer		79,050	CY
Mason, Gary	Professional Lecturer		119,112	CY
Sprague, Jean	Professional Lecturer		81,500	CY
Whitt, Sarah	Professional Lecturer		70,916	CY
Lee, Jacob	Project Associate		64,260	CY
Patterson, David	Project Associate		72,482	CY
Phan, Duy	Project Associate		67,274	CY
Brindle, Brian	Research Associate		114,291	CY
Chavan, Vrushali	Research Associate		43,763	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Chung, Dongil	Research Associate		52,520	CY
Gilmore, Brian	Research Associate		57,792	CY
Guo, Sujuan	Research Associate		41,881	CY
Jourdan, Linda	Research Associate		78,413	CY
Kiss, Susanna	Research Associate		73,376	CY
Stein, Jeffrey	Research Associate		45,000	CY
Trucks, Mary Rebekah	Research Associate		76,073	CY
Veeraraghavan, Rengasayee	Research Associate		47,488	CY
Wallace, Dorian	Research Associate		76,073	CY
Zhu, Lusha	Research Associate		52,000	CY
Gatchalian, Kirstin	Senior Research Associate		87,556	CY
King, Justin	Senior Research Associate		171,026	CY
Lisinski, Jonathan	Senior Research Associate		92,822	CY
Shin, Jae	Senior Research Associate		128,082	CY
White, Jason	Senior Research Associate		129,094	CY
Zhang, Shu	Senior Research Associate		54,590	CY
Virginia Bioinformatics	<u>Institute</u>			
Barrett, Christopher	Administrative Professor		358,000	CY
Garner, Harold	Administrative Professor		355,411	CY
Eubank, Stephen	Professor		216,315	CY
Higdon, Dave	Professor		289,800	CY
Hoeschele, Ina	Professor		147,060	CY
Keller, Sallie	Professor		319,800	CY
Marathe, Achla	Professor		174,300	CY
Marathe, Madhav	Professor		275,000	CY
Reidys, Christian	Professor		207,000	CY
Aizcorbe, Ana	Research Professor		255,000	CY
Bassaganya-Riera, Josep	Research Professor		206,500	CY
Hefta, Stanley	Research Professor		175,590	CY
Peccoud, Jean	Research Professor		157,248	CY
Shipp, Stephanie	Research Professor		264,000	CY
Bisset, Keith	Senior Research Scientist		192,333	CY
Mortveit, Henning	Associate Professor		146,177	CY
Vullikanti, Anil	Associate Professor		157,300	CY
Hontecillas-Magarzo, Raquel	Research Associate Professor		105,900	CY
Michalak, Pawel	Research Associate Professor		111,750	CY
Orr, Mark	Research Associate Professor		144,900	CY
Xie, Hehuang	Research Associate Professor		106,600	CY
Chen, Jiangzhuo	Research Scientist		135,419	CY
Gupta, Sandeep	Research Scientist		96,101	CY
Kale, Shiv	Research Scientist		78,759	CY
Karyala, Saikumar	Research Scientist		100,270	CY
Khan, Md-Abdul	Research Scientist		105,780	CY
Kuhlman, Christopher	Research Scientist		117,750	CY
Rezazadegan, Reza	Research Scientist		80,000	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Schroeder, Aaron	Research Scientist		126,006	CY
Settlage, Robert	Research Scientist		115,522	CY
Ha, Sook	Postdoctoral Associate		63,818	CY
Lofgren, Eric	Postdoctoral Associate		61,900	CY
Molfino, Emily	Postdoctoral Associate		65,000	CY
Pal, Anamitra	Postdoctoral Associate		63,130	CY
Pires, Bianica	Postdoctoral Associate		65,000	CY
Ren, Yihui	Postdoctoral Associate		60,000	CY
Sun, Ming-an	Postdoctoral Associate		46,377	CY
Vaksman, Zalman	Postdoctoral Associate		46,900	CY
Venkatramanan, Srinivasan	Postdoctoral Associate		60,000	CY
Youssef, Mina	Postdoctoral Associate		61,900	CY
Ziemer, Kathryn	Postdoctoral Associate		65,000	CY
Abedi, Vida	Research Assistant Professor		94,000	CY
Dickerman, Allan	Research Assistant Professor		128,638	CY
Hoops, Stefan	Research Assistant Professor		112,434	CY
Korkmaz, Gizem	Research Assistant Professor		124,200	CY
Lewis, Bryan	Research Assistant Professor		132,900	CY
Swarup, Samarth	Research Assistant Professor		111,160	CY
Wattam, Alice	Research Assistant Professor		121,440	CY
Coble, Lauren	Administrative Lecturer		180,000	CY
Correll, Linda	Professional Lecturer		86,135	CY
Felton, Clifton	Professional Lecturer		102,500	CY
Gibbs, William	Professional Lecturer		85,924	CY
Lawson, Sharon	Professional Lecturer		101,113	CY
Robinson, Rachel	Professional Lecturer		63,550	CY
Shinpaugh, Kevin	Professional Lecturer		130,450	CY
Trent, Tiffany	Professional Lecturer		57,783	CY
Williams, Jody	Professional Lecturer		103,000	CY
Lawrence-Kuether, Maureen	Project Associate		46,575	CY
Liu, Dan	Project Associate		72,600	CY
Schulman, Julie	Project Associate		71,980	CY
Kenyon, Ronald	Project Director		123,394	CY
Will, Rebecca	Project Director		125,242	CY
Borkowski, Dominik	Research Associate		78,720	CY
Chung Baek, Young Yun	Research Associate		83,800	CY
Dixon, Jonathan	Research Associate		77,900	CY
Gentry, William	Research Associate		77,200	CY
Johnson, Jeremy	Research Associate		91,550	CY
Klahn, Brian	Research Associate		63,808	CY
Lee, Kristin	Research Associate		58,270	CY
Liles, Nathan	Research Associate		61,250	CY
Lu, Jian	Research Associate		81,900	CY
Marmagas, William	Research Associate		86,040	CY
McMaster, Douglas	Research Associate		76,558	CY
Michalak, Katarzyna	Research Associate		49,478	CY

<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Wilson, Meredith	Research Associate		57,735	CY
Adames, Neil	Senior Research Associate		66,600	CY
Adiga, Abhijin	Senior Research Associate		83,100	CY
Fonville, Natalie	Senior Research Associate		62,300	CY
Machi, Dustin	Senior Research Associate		151,346	CY
Nordberg, Eric	Senior Research Associate		92,375	CY
Warren, Andrew	Senior Research Associate		79,404	CY
Wilson, Amanda	Senior Research Associate		109,350	CY
Xie, Dawen	Senior Research Associate		91,370	CY
Yoo, Hyun Seung	Senior Research Associate		90,967	CY
Collins, Kristy	Sr Project Associate		74,603	CY
Mao, Chunhong	Sr Project Associate		108,951	CY
Stoll, James	Sr Project Associate		107,702	CY
Walke, James	Sr Project Associate		80,737	CY
Virginia Tech Transport	ation Institute			
Dingus, Thomas	Professor	Director, VTTI and Endowed Professor	367,418	RE12
Hankey, Jonathan	Senior Research Scientist		250,078	CY
Hanowski, Richard	Senior Research Scientist		203,694	CY
Untaroiu, Costin	Research Associate Professor		130,289	CY
Ahn, Kyoungho	Research Scientist		84,662	CY
Antin, Jonathan	Research Scientist		147,001	CY
Blanco, Myra	Research Scientist		151,350	CY
Doerzaph, Zachary	Research Scientist		143,190	CY
Elshawarby, Ihab	Research Scientist		84,647	CY
Fitch, Gregory	Research Scientist		109,151	CY
Gibbons, Ronald	Research Scientist		147,913	CY
Hickman, Jeffrey	Research Scientist		132,096	CY
Klauer, Sheila	Research Scientist		127,020	CY
Llaneras, Robert	Research Scientist		144,415	CY
McLaughlin, Shane	Research Scientist		149,075	CY
Mollenhauer, Michael	Research Scientist		163,129	CY
Perez, Miguel	Research Scientist		142,003	CY
Urban, Michael	Postdoctoral Associate		43,260	CY
Yang, Hao	Postdoctoral Associate		49,140	CY
Elpi, Cecilia	Professional Lecturer		56,585	CY
Gaylord, Clark	Professional Lecturer		143,210	CY
Gerni, Pascha	Professional Lecturer		114,615	CY
Hall, Roderick	Professional Lecturer	Senior Associate Director of Administration	202,029	CY
Hamm, Laura	Professional Lecturer		55,000	CY
Naff, Ryan	Professional Lecturer		58,000	CY
Robinson, Angela	Professional Lecturer		61,655	CY
Anderson, Joel	Project Associate		56,300	CY
Baker, Stephanie	Project Associate		34,924	CY
Baynes, Peter	Project Associate		51,000	CY
Buchanan-King, Mindy	Project Associate		60,022	CY

<u>Name</u>	Rank	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Eichelberger, Elizabeth	Project Associate		61,142	CY
Fitchett, Vikki	Project Associate		58,140	CY
Harwood, Leslie	Project Associate		54,359	CY
Hulse, Melissa	Project Associate		49,921	CY
Joslin, Spencer	Project Associate		52,193	CY
Kady, Joel	Project Associate		59,704	CY
Layman, Charles	Project Associate		53,836	CY
Li, Lei	Project Associate		51,615	CY
Lowdermilk, Charlotte	Project Associate		50,405	CY
Mason, Matthew	Project Associate		72,800	CY
Moeller, Devon	Project Associate		51,077	CY
Russell, Tammy	Project Associate		68,246	CY
Shelton, Kimberly	Project Associate		60,033	CY
Smith, Carol	Project Associate		57,057	CY
Lee, Suzanne	Project Director		88,910	CY
Resendes, Raymond	Project Director		176,868	CY
Atwood, Jonathan	Research Associate		52,000	CY
Bhagavathula, Rajaram	Research Associate		58,578	CY
Bowden, Zachary	Research Associate		112,137	CY
Bryson, Michael	Research Associate		127,000	CY
Bucher, Craig	Research Associate		100,647	CY
Camden, Matthew	Research Associate		59,871	CY
Cannon, Brad	Research Associate		58,359	CY
Chen, Hao	Research Associate		48,880	CY
Chilcott, Dan	Research Associate		92,025	CY
Conry, Donald	Research Associate		70,763	CY
Cook, Julie	Research Associate		57,112	CY
Cospel, Carl	Research Associate		132,859	CY
Dennis, Jacob	Research Associate		72,450	CY
Dunn, Naomi	Research Associate		69,966	CY
Ellery, Michael	Research Associate		76,554	CY
Fang, Youjia	Research Associate		67,015	CY
Feierabend, Robert	Research Associate		69,418	CY
Freeman, William	Research Associate		67,798	CY
Gorman, Thomas	Research Associate		66,164	CY
Grove, Kevin	Research Associate		63,776	CY
Hammond, Rebecca	Research Associate		70,063	CY
Huang, Fang	Research Associate		86,110	CY
Jermeland, Julie	Research Associate		83,836	CY
Leeson, Brian	Research Associate		111,708	CY
Lefevers, David	Research Associate		65,184	CY
Li, Yingfeng	Research Associate		80,312	CY
Maloney, Brian	Research Associate		80,250	CY
Marburg, Trijntje	Research Associate		55,749	CY
Mayer, Brian	Research Associate		58,500	CY
McCall, Robert	Research Associate		66,231	CY

McGowin, Gregory Research Associate 61,512 CY Meyer, Jason Research Associate 63,560 CY Modeller, Mathhew Research Associate 68,350 CY Quesemberry, Joshua Research Associate 69,7317 CY Raney, Cameron Research Associate 67,317 CY Robes, Kurtia Research Associate 62,255 CY Russell, Sheldon Research Associate 67,068 CY Russell, Sheldon Research Associate 67,068 CY Tallod, Viella, Jean Research Associate 67,365 CY Tallod, Viella, Jean Research Associate 69,544 CY Virsy, Reginald Research Associate 69,544 CY Virsy, Reginald Research Associate 69,544 CY Worting, Brian Research Associate 59,788 CY Worting, Brian Research Associate 59,788 CY Worting, Brian Research Associate 102,100 CY Laine Senice R	<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Moeller, Matthew Research Associate 56,863 CY Queserberry, Joshua Research Associate 89,171 CY Rainey, Camaron Research Associate 67,317 CY Rooks, Kutts Research Associate 72,450 CY Russell, Sheldon Research Associate 62,525 CY Soccolich, Susan Research Associate 67,088 CY Song, Miao Research Associate 67,385 CY Talledo Vilela, Jean Research Associate 67,385 CY Talledo Vilela, Jean Research Associate 67,385 CY Viray, Reginald Research Associate 7,859 CY Viray, Reginald Research Associate 22,805 CY White, Einzbeth Research Associate 52,300 CY Williams, Brian Research Associate 52,300 CY Williams, Brian Research Associate 122,180 CY Voltring, Brian Research Associate 122,180 CY Daily, Brian Sen	McGowin, Gregory	Research Associate		61,512	CY
Cuesantherry, Joshuu Research Associate 69,171 CY Rainey, Cameron Research Associate 67,317 CY Rooks, Kurtia Research Associate 72,450 CY Russell, Sheldon Research Associate 62,525 CY Soccialich, Suran Research Associate 67,668 CY Talloct, Frank Research Associate 67,868 CY Talloct, Frank Research Associate 67,365 CY Talloct, Frank Research Associate 97,859 CY Talloct, Frank Research Associate 97,859 CY Talloct, Frank Research Associate 97,859 CY Viray, Regnald Research Associate 97,859 CY White, Elizabeth Research Associate 59,534 CY White, Billand Research Associate 64,740 CY Williams, Brian Research Associate 122,160 CY Williams, Brian Research Associate 122,160 CY Beans, Stephen Senior Re	Meyer, Jason	Research Associate		63,560	CY
Rainsy, Cameron Research Associate 67,317 CY Rools, Kurlis Research Associate 72,450 CY Russell, Sheldon Research Associate 67,668 CY Socoolleh, Susan Research Associate 67,622 CY Talbot, Frank Research Associate 67,322 CY Talbot, Frank Research Associate 67,322 CY Tarbot, Frank Research Associate 67,325 CY Terry, Travis Research Associate 78,859 CY Viray, Reginatd Research Associate 72,805 CY Williams, Brian Research Associate 67,474 CY Wolting, Brian Research Associate 52,930 CY Worting, Brian Research Associate 19,455 CY Bears, Stephen Senior Research Associate 194,558 CY Druba, Cristan Senior Research Associate 194,558 CY Iverson, Dean Senior Research Associate 190,833 CY Iverson, Dean Se	Moeller, Matthew	Research Associate		56,863	CY
Roses, Kurtis Research Associate 72,450 CY Russell, Sheldron Research Associate 62,255 CY Scocolish, Susan Research Associate 67,088 CY Song, Miao Research Associate 67,365 CY Tallodo, Frank Research Associate 97,859 CY Tallodo, Villeu, Jean Research Associate 97,859 CY Trany, Travis Research Associate 72,805 CY White, Elizabeth Research Associate 64,740 CY Williams, Bran Research Associate 52,830 CY Williams, Bran Research Associate 52,830 CY Alden, Andrew Senior Research Associate 122,180 CY Alden, Andrew Senior Research Associate 190,453 CY Drus, Cristan Senior Research Associate 73,850 CY Nerson, Dean Senior Research Associate 75,059 CY Nerson, Dean Senior Research Associate 105,833 CY Kallinicuk, Irina </td <td>Quesenberry, Joshua</td> <td>Research Associate</td> <td></td> <td>69,171</td> <td>CY</td>	Quesenberry, Joshua	Research Associate		69,171	CY
Russell, Sheldon Research Associate 62,825 CY Soccolch, Susan Research Associate 67,088 CY Soccolch, Susan Research Associate 67,422 CY Tallod, Frank Research Associate 67,365 CY Talledo Vilela, Jean Research Associate 97,859 CY Tenry, Travis Research Associate 59,534 CY White, Elizabeth Research Associate 64,740 CY While, Elizabeth Research Associate 52,930 CY Williams, Brian Research Associate 52,930 CY Worting, Brian Research Associate 122,180 CY Alden, Andrew Senior Research Associate 122,180 CY Bears, Stephen Senior Research Associate 104,558 CY Druls, Orista Senior Research Associate 73,859 CY Drus, Crista Senior Research Associate 106,583 CY Nerson, Dean Senior Research Associate 105,833 CY Kaliniouk,	Rainey, Cameron	Research Associate		67,317	CY
Scocolich, Susan Research Associate 67,088 CY Song, Miso Research Associate 67,422 CY Talloch, Frank Research Associate 67,365 CY Talledo, Viella, Jean Research Associate 97,899 CY Terry, Travis Research Associate 59,534 CY Viray, Reginald Research Associate 64,740 CY White, Elizabeth Research Associate 64,740 CY Wotring, Brian Research Associate 55,786 CY Wotring, Brian Research Associate 122,180 CY Mille, Elizabeth Senior Research Associate 104,588 CY Wotring, Brian Research Associate 104,588 CY Wotring, Brian Senior Research Associate 104,588 CY Daily, Brian Senior Research Associate 104,588 CY Du, Jianhe Senior Research Associate 73,880 CY Nerson, Sondra Senior Research Associate 105,833 CY Kaliniouk, Iri	Rooks, Kurtis	Research Associate		72,450	CY
Song, Miao Research Associate 67,422 CY Talbot, Frank Research Associate 67,365 CY Talledo Viela, Jean Research Associate 97,859 CY Terry, Travis Research Associate 95,534 CY Viray, Reginald Research Associate 122,905 CY White, Elizabeth Research Associate 52,930 CY Williams, Brian Research Associate 52,930 CY Worting, Brian Research Associate 55,766 CY Alden, Andrew Senior Research Associate 122,180 CY Bears, Stephen Senior Research Associate 199,943 CY Druta, Cristian Senior Research Associate 75,059 CY Druta, Cristian Senior Research Associate 105,833 CY Iverson, Dean Senior Research Associate 105,833 CY Iverson, Sondra Senior Research Associate 105,833 CY Kalinicuk, Irina Senior Research Associate 105,833 CY	Russell, Sheldon	Research Associate		62,525	CY
Talloto, Frank Research Associate 67.365 CY Talledo Vileta, Jean Research Associate 97.859 CY Yiray, Reginald Research Associate 59.534 CY Writay, Reginald Research Associate 64.740 CY Williams, Brian Research Associate 52.930 CY Wotring, Brian Research Associate 55.786 CY Wotring, Brian Research Associate 122,180 CY Bears, Stephen Senior Research Associate 104,558 CY Daily, Brian Senior Research Associate 99.943 CY Drula, Cristian Senior Research Associate 73,850 CY Drula, Cristian Senior Research Associate 73,850 CY Iverson, Dean Senior Research Associate 105,833 CY Iverson, Sondra Senior Research Associate 105,833 CY Kaliniouk, Vasily Senior Research Associate 107,676 CY Katicha, Samer Senior Research Associate 99,711 CY <	Soccolich, Susan	Research Associate		67,068	CY
Talledo Vilela, Jean Research Associate 97,859 CY Terry, Travis Research Associate 59,334 CY Viray, Reginald Research Associate 72,805 CY Willite, Elizabeth Research Associate 64,740 CY Williams, Brian Research Associate 52,930 CY Wotring, Brian Research Associate 55,786 CY Alden, Andrew Senior Research Associate 122,180 CY Bears, Stephen Senior Research Associate 104,558 CY Dulla, Grian Senior Research Associate 73,850 CY Druta, Cristian Senior Research Associate 73,850 CY Iverson, Dean Senior Research Associate 105,833 CY Iverson, Sondra Senior Research Associate 105,833 CY Kaliniouk, Irina Senior Research Associate 107,676 CY Kaliniouk, Irina Senior Research Associate 107,676 CY Kaliniouk, Irina Senior Research Associate 69,711 CY <	Song, Miao	Research Associate		67,422	CY
Temp, Travis Research Associate 59,534 CY Viray, Reginald Research Associate 72,805 CY White, Elizabeth Research Associate 64,740 CY Williams, Brian Research Associate 52,930 CY Wotring, Brian Research Associate 55,786 CY Alden, Andrew Senior Research Associate 122,180 CY Bears, Slephen Senior Research Associate 199,443 CY Dully, Brian Senior Research Associate 73,850 CY Dutta, Cristian Senior Research Associate 73,850 CY Du, Jianhe Senior Research Associate 105,833 CY Iverson, Dean Senior Research Associate 105,833 CY Kaliniouk, Irina Senior Research Associate 102,889 CY Kaliniouk, Vasily Senior Research Associate 107,676 CY Kaliniouk, Vasily Senior Research Associate 84,357 CY Medina-Flintsch, Alejandra Senior Research Associate 65,541 CY <td>Talbot, Frank</td> <td>Research Associate</td> <td></td> <td>67,365</td> <td>CY</td>	Talbot, Frank	Research Associate		67,365	CY
Viray, Reginald Research Associate 72,805 CY White, Elizabeth Research Associate 64,740 CY Williams, Brian Research Associate 52,930 CY Wotting, Brian Research Associate 55,766 CY Alden, Andrew Senior Research Associate 104,558 CY Bears, Stephen Senior Research Associate 104,558 CY Dally, Brian Senior Research Associate 99,943 CY Druta, Cristian Senior Research Associate 73,850 CY Dru, Jianhe Senior Research Associate 75,059 CY Iverson, Dean Senior Research Associate 105,833 CY Iverson, Sondra Senior Research Associate 105,833 CY Kaliniouk, Vasily Senior Research Associate 105,833 CY Kaliniouk, Vasily Senior Research Associate 107,676 CY Kum, Andrew Senior Research Associate 90,711 CY Medina-Flintsch, Alejandria Senior Research Associate 69,711 <td< td=""><td>Talledo Vilela, Jean</td><td>Research Associate</td><td></td><td>97,859</td><td>CY</td></td<>	Talledo Vilela, Jean	Research Associate		97,859	CY
White, Elizabeth Research Associate 64,740 CY Williams, Brian Research Associate 52,930 CY Wotring, Brian Research Associate 55,786 CY Alden, Andrew Senior Research Associate 122,180 CY Bears, Slephen Senior Research Associate 104,558 CY Daily, Brian Senior Research Associate 99,943 CY Druta, Cristian Senior Research Associate 73,850 CY Du, Jianhe Senior Research Associate 15,833 CY Iverson, Dean Senior Research Associate 105,833 CY Kaliniouk, Irina Senior Research Associate 105,833 CY Kaliniouk, Vasily Senior Research Associate 107,676 CY Kaltcha, Samer Senior Research Associate 69,711 CY Mabry, Jessica Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 69,541 CY	Terry, Travis	Research Associate		59,534	CY
Williams, Brian Research Associate 52,930 CY Wotring, Brian Research Associate 55,786 CY Alden, Andrew Senior Research Associate 122,180 CY Bears, Stephen Senior Research Associate 104,558 CY Daily, Brian Senior Research Associate 99,943 CY Druta, Cristian Senior Research Associate 73,850 CY Du, Jianhe Senior Research Associate 75,059 CY Iverson, Dean Senior Research Associate 105,833 CY Iverson, Sondra Senior Research Associate 105,833 CY Kalliniouk, Irina Senior Research Associate 107,676 CY Kalliniouk, Vasily Senior Research Associate 70,056 CY Katicha, Samer Senior Research Associate 69,711 CY Mabry, Jessica Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 65,541 CY Medina-Flinitsch, Alejandra Senior Research Associate 77,925 <td>Viray, Reginald</td> <td>Research Associate</td> <td></td> <td>72,805</td> <td>CY</td>	Viray, Reginald	Research Associate		72,805	CY
Wotring, Brian Research Associate 55,786 CY Alden, Andrew Senior Research Associate 122,180 CY Bears, Stephen Senior Research Associate 104,558 CY Daily, Brian Senior Research Associate 99,943 CY Druta, Cristian Senior Research Associate 73,850 CY Lou, Jianhe Senior Research Associate 75,059 CY Iverson, Dean Senior Research Associate 105,833 CY Iverson, Sondra Senior Research Associate 102,589 CY Kaliniouk, Irina Senior Research Associate 107,676 CY Kaliniouk, Vasily Senior Research Associate 70,056 CY Katicha, Samer Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 65,541 CY Neurauter, Michael Senior Research Associate 77,925 CY Owens, Justin Senior Research Associate 95,739	White, Elizabeth	Research Associate		64,740	CY
Alden, Andrew Senior Research Associate 122,180 CY Bears, Stephen Senior Research Associate 104,558 CY Dally, Brian Senior Research Associate 99,943 CY Druta, Cristian Senior Research Associate 73,850 CY Du, Jianhe Senior Research Associate 105,833 CY Iverson, Dean Senior Research Associate 105,833 CY Iverson, Sondra Senior Research Associate 102,589 CY Kaliniouk, Irina Senior Research Associate 107,676 CY Kaliniouk, Vasily Senior Research Associate 70,056 CY Katicha, Samer Senior Research Associate 70,056 CY Krum, Andrew Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 109,451 CY Medina-Flintsch, Alejandra Senior Research Associate 111,872 CY Owens, Justin Senior Research Associate 77,925 CY Palmer, Matthew Senior Research Associate <td< td=""><td>Williams, Brian</td><td>Research Associate</td><td></td><td>52,930</td><td>CY</td></td<>	Williams, Brian	Research Associate		52,930	CY
Bears, Stephen Senior Research Associate 104,558 CY Daily, Brian Senior Research Associate 99,943 CY Druta, Cristian Senior Research Associate 73,850 CY Du, Jianhe Senior Research Associate 75,059 CY Iverson, Dean Senior Research Associate 105,833 CY Iverson, Sondra Senior Research Associate 102,589 CY Kaliniouk, Irina Senior Research Associate 107,676 CY Kaliniouk, Vasily Senior Research Associate 70,056 CY Krum, Andrew Senior Research Associate 84,357 CY Mabry, Jessica Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 109,451 CY Medina-Flintsch, Alejandra Senior Research Associate 111,872 CY Owens, Justin Senior Research Associate 77,925 CY Palmer, Matthew Senior Research Associate 207,081 CY Smith, Ryan Senior Research Associate 31	Wotring, Brian	Research Associate		55,786	CY
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Druta, Cristian Senior Research Associate 73,850 CY Du, Jianhe Senior Research Associate 75,059 CY Iverson, Dean Senior Research Associate 105,833 CY Iverson, Sondra Senior Research Associate 105,833 CY Kaliniouk, Irina Senior Research Associate 102,589 CY Kaliniouk, Vasily Senior Research Associate 107,676 CY Katicha, Samer Senior Research Associate 84,357 CY Krum, Andrew Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 65,541 CY Medina-Flintsch, Alejandra Senior Research Associate 111,872 CY Neurauter, Michael Senior Research Associate 95,739 CY Petersen, Andrew Senior Research Associate 99,739 CY Petersen, Andrew Senior Research Associate 137,887 CY Stowe, Loren Senior Research Associate	Bears, Stephen	Senior Research Associate		104,558	CY
Du, Jlanhe Senior Research Associate 75,059 CY Iverson, Dean Senior Research Associate 105,833 CY Iverson, Sondra Senior Research Associate 105,833 CY Kaliniouk, Irina Senior Research Associate 102,589 CY Kaliniouk, Vasily Senior Research Associate 107,676 CY Katicha, Samer Senior Research Associate 70,056 CY Krum, Andrew Senior Research Associate 69,711 CY Medraw, Thomas Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 65,541 CY Medina-Flintsch, Alejandra Senior Research Associate 65,541 CY Neurauter, Michael Senior Research Associate 77,925 CY Owens, Justin Senior Research Associate 95,739 CY Palmer, Matthew Senior Research Associate 95,739 CY Petersen, Andrew Senior Research Associate 207,081 CY Stowe, Loren Senior Research Associate	Daily, Brian	Senior Research Associate		99,943	CY
Iverson, Dean Senior Research Associate 105,833 CY Iverson, Sondra Senior Research Associate 105,833 CY Kaliniouk, Irina Senior Research Associate 102,589 CY Kaliniouk, Vasily Senior Research Associate 107,676 CY Katicha, Samer Senior Research Associate 70,056 CY Krum, Andrew Senior Research Associate 84,357 CY Mabry, Jessica Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 109,451 CY Medina-Flintsch, Alejandra Senior Research Associate 65,541 CY Neurauter, Michael Senior Research Associate 77,925 CY Owens, Justin Senior Research Associate 77,925 CY Palmer, Matthew Senior Research Associate 95,739 CY Petersen, Andrew Senior Research Associate 207,081 CY Stowe, Loren Senior Research Associate 137,887 CY Stowe, Loren Senior Research Associate	Druta, Cristian	Senior Research Associate		73,850	CY
Iverson, SondraSenior Research Associate105,833CYKaliniouk, IrinaSenior Research Associate102,589CYKaliniouk, VasilySenior Research Associate107,676CYKaticha, SamerSenior Research Associate70,056CYKrum, AndrewSenior Research Associate84,357CYMabry, JessicaSenior Research Associate69,711CYMcGraw, ThomasSenior Research Associate109,451CYMedina-Flintsch, AlejandraSenior Research Associate65,541CYNeurauter, MichaelSenior Research Associate111,872CYOwens, JustinSenior Research Associate77,925CYPalmer, MatthewSenior Research Associate95,739CYPetersen, AndrewSenior Research Associate207,081CYSitowe, LorenSenior Research Associate74,254CYStowe, LorenSenior Research Associate137,887CYSudweeks, JeremySenior Research Associate81,977CYTrimble, TammySenior Research Associate82,720CYCalida, BehnidoSr Project Associate82,720CYCalida, BehnidoSr Project Associate73,528CYMcClafferty, JulieSr Project Associate67,065CY	Du, Jianhe	Senior Research Associate		75,059	CY
Kaliniouk, Irina Senior Research Associate 102,589 CY Kaliniouk, Vasily Senior Research Associate 107,676 CY Katicha, Samer Senior Research Associate 70,056 CY Krum, Andrew Senior Research Associate 84,357 CY Mabry, Jessica Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 109,451 CY Medina-Flintsch, Alejandra Senior Research Associate 65,541 CY Neurauter, Michael Senior Research Associate 111,872 CY Owens, Justin Senior Research Associate 77,925 CY Palmer, Matthew Senior Research Associate 95,739 CY Petersen, Andrew Senior Research Associate 207,081 CY Stowe, Loren Senior Research Associate 74,254 CY Stowe, Loren Senior Research Associate 81,977 CY Trimble, Tammy Senior Research Associate 67,750 CY Gelida, Behnido Sr Project Associate <t< td=""><td>Iverson, Dean</td><td>Senior Research Associate</td><td></td><td>105,833</td><td>CY</td></t<>	Iverson, Dean	Senior Research Associate		105,833	CY
Kaliniouk, Vasily Senior Research Associate 107,676 CY Katicha, Samer Senior Research Associate 70,056 CY Krum, Andrew Senior Research Associate 84,357 CY Mabry, Jessica Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 109,451 CY Medina-Flintsch, Alejandra Senior Research Associate 65,541 CY Neurauter, Michael Senior Research Associate 111,872 CY Owens, Justin Senior Research Associate 77,925 CY Palmer, Matthew Senior Research Associate 95,739 CY Petersen, Andrew Senior Research Associate 207,081 CY Smith, Ryan Senior Research Associate 137,887 CY Stowe, Loren Senior Research Associate 81,977 CY Trimble, Tammy Senior Research Associate 67,750 CY de Leon Izeppi, Edgar Senior Research Associate 82,720 CY Calida, Behnido Sr Project Associate	Iverson, Sondra	Senior Research Associate		105,833	CY
Katicha, Samer Senior Research Associate 70,056 CY Krum, Andrew Senior Research Associate 84,357 CY Mabry, Jessica Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 109,451 CY Medina-Flintsch, Alejandra Senior Research Associate 65,541 CY Neurauter, Michael Senior Research Associate 1111,872 CY Owens, Justin Senior Research Associate 77,925 CY Palmer, Matthew Senior Research Associate 95,739 CY Petersen, Andrew Senior Research Associate 207,081 CY Smith, Ryan Senior Research Associate 74,254 CY Stowe, Loren Senior Research Associate 137,887 CY Stowe, Loren Senior Research Associate 81,977 CY Trimble, Tammy Senior Research Associate 82,720 CY de Leon Izeppi, Edgar Senior Research Associate 82,720 CY Calida, Behnido Sr Project Associate 73,528 CY McClafferty, Julie Sr Project Associate 73,528 CY Nadler, Leonore Sr Project Associate 67,760 CY	Kaliniouk, Irina	Senior Research Associate		102,589	CY
Krum, Andrew Senior Research Associate 84,357 CY Mabry, Jessica Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 109,451 CY Medina-Flintsch, Alejandra Senior Research Associate 65,541 CY Neurauter, Michael Senior Research Associate 111,872 CY Owens, Justin Senior Research Associate 77,925 CY Palmer, Matthew Senior Research Associate 95,739 CY Petersen, Andrew Senior Research Associate 207,081 CY Smith, Ryan Senior Research Associate 74,254 CY Stowe, Loren Senior Research Associate 137,887 CY Sudweeks, Jeremy Senior Research Associate 81,977 CY Trimble, Tammy Senior Research Associate 67,750 CY Trimble, Tammy Senior Research Associate 82,720 CY Calida, Behnido Sr Project Associate 73,528 CY Nadler, Leonore Sr Project Associate 73,528 CY	Kaliniouk, Vasily	Senior Research Associate		107,676	CY
Mabry, Jessica Senior Research Associate 69,711 CY McGraw, Thomas Senior Research Associate 109,451 CY Medina-Flintsch, Alejandra Senior Research Associate 65,541 CY Neurauter, Michael Senior Research Associate 111,872 CY Owens, Justin Senior Research Associate 77,925 CY Palmer, Matthew Senior Research Associate 95,739 CY Petersen, Andrew Senior Research Associate 207,081 CY Smith, Ryan Senior Research Associate 74,254 CY Stowe, Loren Senior Research Associate 137,887 CY Sudweeks, Jeremy Senior Research Associate 81,977 CY Trimble, Tammy Senior Research Associate 82,720 CY de Leon Izeppi, Edgar Senior Research Associate 82,720 CY Calida, Behnido Sr Project Associate 73,528 CY Nadler, Leonore Sr Project Associate 73,528 CY	Katicha, Samer	Senior Research Associate		70,056	CY
McGraw, Thomas Senior Research Associate 109,451 CY Medina-Flintsch, Alejandra Senior Research Associate 65,541 CY Neurauter, Michael Senior Research Associate 111,872 CY Owens, Justin Senior Research Associate 77,925 CY Palmer, Matthew Senior Research Associate 95,739 CY Petersen, Andrew Senior Research Associate 207,081 CY Smith, Ryan Senior Research Associate 74,254 CY Stowe, Loren Senior Research Associate 137,887 CY Sudweeks, Jeremy Senior Research Associate 81,977 CY Trimble, Tammy Senior Research Associate 67,750 CY de Leon Izeppi, Edgar Senior Research Associate 82,720 CY Calida, Behnido Sr Project Associate 73,528 CY Nadler, Leonore Sr Project Associate 73,528 CY	Krum, Andrew	Senior Research Associate		84,357	CY
Medina-Flintsch, AlejandraSenior Research Associate65,541CYNeurauter, MichaelSenior Research Associate111,872CYOwens, JustinSenior Research Associate77,925CYPalmer, MatthewSenior Research Associate95,739CYPetersen, AndrewSenior Research Associate207,081CYSmith, RyanSenior Research Associate74,254CYStowe, LorenSenior Research Associate137,887CYSudweeks, JeremySenior Research Associate81,977CYTrimble, TammySenior Research Associate67,750CYde Leon Izeppi, EdgarSenior Research Associate82,720CYCalida, BehnidoSr Project Associate68,223CYMcClafferty, JulieSr Project Associate73,528CYNadler, LeonoreSr Project Associate67,065CY	Mabry, Jessica	Senior Research Associate		69,711	CY
Neurauter, MichaelSenior Research Associate111,872CYOwens, JustinSenior Research Associate77,925CYPalmer, MatthewSenior Research Associate95,739CYPetersen, AndrewSenior Research Associate207,081CYSmith, RyanSenior Research Associate74,254CYStowe, LorenSenior Research Associate137,887CYSudweeks, JeremySenior Research Associate81,977CYTrimble, TammySenior Research Associate67,750CYde Leon Izeppi, EdgarSenior Research Associate82,720CYCalida, BehnidoSr Project Associate68,223CYMcClafferty, JulieSr Project Associate73,528CYNadler, LeonoreSr Project Associate67,065CY	McGraw, Thomas	Senior Research Associate		109,451	CY
Owens, JustinSenior Research Associate77,925CYPalmer, MatthewSenior Research Associate95,739CYPetersen, AndrewSenior Research Associate207,081CYSmith, RyanSenior Research Associate74,254CYStowe, LorenSenior Research Associate137,887CYSudweeks, JeremySenior Research Associate81,977CYTrimble, TammySenior Research Associate67,750CYde Leon Izeppi, EdgarSenior Research Associate82,720CYCalida, BehnidoSr Project Associate68,223CYMcClafferty, JulieSr Project Associate73,528CYNadler, LeonoreSr Project Associate67,065CY	Medina-Flintsch, Alejandra	Senior Research Associate		65,541	CY
Palmer, MatthewSenior Research Associate95,739CYPetersen, AndrewSenior Research Associate207,081CYSmith, RyanSenior Research Associate74,254CYStowe, LorenSenior Research Associate137,887CYSudweeks, JeremySenior Research Associate81,977CYTrimble, TammySenior Research Associate67,750CYde Leon Izeppi, EdgarSenior Research Associate82,720CYCalida, BehnidoSr Project Associate68,223CYMcClafferty, JulieSr Project Associate73,528CYNadler, LeonoreSr Project Associate67,065CY	Neurauter, Michael	Senior Research Associate		111,872	CY
Petersen, AndrewSenior Research Associate207,081CYSmith, RyanSenior Research Associate74,254CYStowe, LorenSenior Research Associate137,887CYSudweeks, JeremySenior Research Associate81,977CYTrimble, TammySenior Research Associate67,750CYde Leon Izeppi, EdgarSenior Research Associate82,720CYCalida, BehnidoSr Project Associate68,223CYMcClafferty, JulieSr Project Associate73,528CYNadler, LeonoreSr Project Associate67,065CY	Owens, Justin	Senior Research Associate		77,925	CY
Smith, RyanSenior Research Associate74,254CYStowe, LorenSenior Research Associate137,887CYSudweeks, JeremySenior Research Associate81,977CYTrimble, TammySenior Research Associate67,750CYde Leon Izeppi, EdgarSenior Research Associate82,720CYCalida, BehnidoSr Project Associate68,223CYMcClafferty, JulieSr Project Associate73,528CYNadler, LeonoreSr Project Associate67,065CY	Palmer, Matthew	Senior Research Associate		95,739	CY
Stowe, LorenSenior Research Associate137,887CYSudweeks, JeremySenior Research Associate81,977CYTrimble, TammySenior Research Associate67,750CYde Leon Izeppi, EdgarSenior Research Associate82,720CYCalida, BehnidoSr Project Associate68,223CYMcClafferty, JulieSr Project Associate73,528CYNadler, LeonoreSr Project Associate67,065CY	Petersen, Andrew	Senior Research Associate		207,081	CY
Sudweeks, JeremySenior Research Associate81,977CYTrimble, TammySenior Research Associate67,750CYde Leon Izeppi, EdgarSenior Research Associate82,720CYCalida, BehnidoSr Project Associate68,223CYMcClafferty, JulieSr Project Associate73,528CYNadler, LeonoreSr Project Associate67,065CY	Smith, Ryan	Senior Research Associate		74,254	CY
Trimble, Tammy Senior Research Associate 67,750 CY de Leon Izeppi, Edgar Senior Research Associate 82,720 CY Calida, Behnido Sr Project Associate 68,223 CY McClafferty, Julie Sr Project Associate 73,528 CY Nadler, Leonore Sr Project Associate 67,065 CY	Stowe, Loren	Senior Research Associate		137,887	CY
de Leon Izeppi, EdgarSenior Research Associate82,720CYCalida, BehnidoSr Project Associate68,223CYMcClafferty, JulieSr Project Associate73,528CYNadler, LeonoreSr Project Associate67,065CY	Sudweeks, Jeremy	Senior Research Associate		81,977	CY
Calida, BehnidoSr Project Associate68,223CYMcClafferty, JulieSr Project Associate73,528CYNadler, LeonoreSr Project Associate67,065CY	Trimble, Tammy	Senior Research Associate		67,750	CY
McClafferty, Julie Sr Project Associate 73,528 CY Nadler, Leonore Sr Project Associate 67,065 CY	de Leon Izeppi, Edgar	Senior Research Associate		82,720	CY
Nadler, Leonore Sr Project Associate 67,065 CY	Calida, Behnido	Sr Project Associate		68,223	CY
·	McClafferty, Julie	Sr Project Associate		73,528	CY
Witcher, Christina Sr Project Associate 65,000 CY	Nadler, Leonore	Sr Project Associate		67,065	CY
	Witcher, Christina	Sr Project Associate		65,000	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Career Services Auxil	<u>iary</u>			
Childress, Mary	Professional Lecturer	Senior Assistant Director	59,850	CY
Copeland, Catherine	Professional Lecturer	Senior Assistant Director	61,166	CY
Haynes, Carolyn	Professional Lecturer	Senior Assistant Director	51,287	CY
Henderson, James	Professional Lecturer	Associate Director	74,804	CY
Leist, Leigh	Professional Lecturer	Senior Assistant Director	60,973	CY
McPherson, Amy	Professional Lecturer	Associate Director	71,725	CY
Mitchell, Lori	Professional Lecturer		50,845	CY
Ratcliffe, Donna	Professional Lecturer	Director	109,566	CY
Scott, Rebecca	Professional Lecturer	Assistant Director	57,387	CY
Smith, Johanna	Professional Lecturer	Assistant Director	52,408	CY
Steuer, Kaitlin	Professional Lecturer	Career Advisor	43,223	CY
Williams, John Gray	Professional Lecturer		41,949	CY
Wilson, Deborah	Professional Lecturer		62,321	CY
Career Services E&G				
Beach, Katherine	Professional Lecturer		49,975	CY
Robinson, Carol	Professional Lecturer	Director	74,142	CY
Student Affairs Centra	al Auxiliary			
Angert, Ronald	Professional Lecturer	Associate Director	79,679	CY
Beecher, Greg	Professional Lecturer	Assistant Director	65,436	CY
Foy, William	Professional Lecturer		84,991	CY
Glass, Martha	Professional Lecturer	Director	79,678	CY
Gresham, Hunter	Professional Lecturer	Chief of Staff	95,615	CY
Hayden, William	Professional Lecturer	Assistant Dean	54,921	CY
Hubble, Leslie	Professional Lecturer		67,139	CY
Manz, Lyndsy	Professional Lecturer	Assistant Director	47,662	CY
Montes, Maria	Professional Lecturer		38,000	CY
Shapiro, Gary	Professional Lecturer		86,803	CY
Smiley, Mark	Professional Lecturer		42,000	CY
Smith, Patricia	Professional Lecturer	Director	79,679	CY
Dean of Students Offi	<u>ce</u>			
Brown, James	Administrative Lecturer	Dean of Students	131,120	CY
Adams, Sharrika	Professional Lecturer	Associate Dean	71,058	CY
Amal, Tommy	Professional Lecturer		40,000	CY
Scott, Anthony	Professional Lecturer	Director	85,306	CY
Weyrens Kuhn, Meghan	Professional Lecturer		46,493	CY
Dining Services				
Faulkner, Theodore	Professional Lecturer	Director	128,894	CY
Gelbert, Craig	Professional Lecturer	Associate Director	78,474	CY
Hess, William	Professional Lecturer	Associate Director	82,069	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Military Affairs				
Fullhart, Randal	Administrative Lecturer	Commandant	133,781	CY
Combs, David	Professional Lecturer		48,726	AY
Cox, Carrie	Professional Lecturer		52,533	AY
Jackson, Gary	Professional Lecturer	Assistant Director	50,922	AY
Jones, Lance	Professional Lecturer		48,726	AY
Larkin, Patience	Professional Lecturer	Director of Corps Alumni Programs	61,200	AY
Mariger, Rewa	Professional Lecturer		59,162	CY
Miller, William	Professional Lecturer	Deputy Commandant	73,977	CY
Oberoi, Alexandra	Professional Lecturer		38,000	CY
Payne, Charles	Professional Lecturer	Deputy Commandant	58,833	AY
Russell, Donald	Professional Lecturer		55,930	AY
Snyder, James	Professional Lecturer	Deputy Commandant	71,507	CY
Weaver, Michael	Professional Lecturer	Deputy Commandant	64,567	AY
Willey, Daniel	Professional Lecturer		48,726	AY
Multicultural Progran	ms and Services			
Houston, Kristen	Professional Lecturer	Assistant Director	50,403	CY
Recreational Sports	Auxiliary			
Cross, Alison	Professional Lecturer	Associate Director of Fitness and Administration	61,540	CY
Feldhaus, Jeffrey	Professional Lecturer		35,697	CY
Glick, Alan	Professional Lecturer	Assistant Director	60,286	CY
Greenlee, Elizabeth	Professional Lecturer		35,998	CY
Marquez, Gabriela	Professional Lecturer		47,935	CY
Preston, Dominique	Professional Lecturer	Assistant Director of Sports Clubs	47,721	CY
Smith, Benjamin	Professional Lecturer		48,610	CY
Trotter, Steven	Professional Lecturer		50,639	CY
Wise, Christopher	Professional Lecturer	Assistant Vice President	91,580	CY
Cranwell Internation	al Center			
Baker, Suzanne	Professional Lecturer		55,479	CY
Schiffert Health Cent	<u>ter</u>			
Ferraro, Richard	Administrative Lecturer	Assistant Vice President	146,305	CY
Andrews, David	Professional Lecturer		42,495	CY
Barry, Fredrick	Professional Lecturer		103,039	AY
Bissell, Noelle	Professional Lecturer		129,687	AY
Charoensiri, Kanitta	Professional Lecturer	Director	153,432	CY
Chitwood, Patty	Professional Lecturer		134,205	CY
Cox, Teresa	Professional Lecturer		62,210	AY
Frasca, Dominic	Professional Lecturer		119,773	AY
Fritsch, Jon	Professional Lecturer	Assistant Director	55,658	CY
Fritsch, Laurie	Professional Lecturer	Assistant Director	46,751	AY
Livingston, David	Professional Lecturer		108,303	AY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Mitcham, Rhonda	Professional Lecturer	Associate Director	83,814	CY
Neely, Julie	Professional Lecturer		120,604	CY
Williams, Michael	Professional Lecturer		57,164	AY
Zheng, Jianfeng	Professional Lecturer		64,549	AY
Services for Students	with Disabilities			
Angle, Susan	Professional Lecturer	Director	90,859	CY
Brown, Michael	Professional Lecturer		46,745	CY
Hudson, Robyn	Professional Lecturer	Associate Director	63,743	CY
Smith, Deborah	Professional Lecturer		42,797	CY
Smith, Donna	Professional Lecturer		45,000	CY
Associate Vice Preside	<u>ent</u>			
Shushok, Frank	Administrative Assistant Prof	Associate Vice President	187,247	CY
White, Penny	Administrative Lecturer	Director	98,431	CY
Alderson, Alece	Professional Lecturer		33,567	CY
Busiel, Scott	Professional Lecturer		32,912	CY
Bylenga, Kathryn	Professional Lecturer		45,978	CY
Davis, Lavon	Professional Lecturer		32,541	CY
Finger, Eleanor	Professional Lecturer	Director	118,402	CY
Foiles, Andrew	Professional Lecturer		32,541	CY
Gift, Timothy	Professional Lecturer		91,637	CY
Harbison, Samantha	Professional Lecturer		32,637	CY
Harrison, Aliana	Professional Lecturer		46,035	CY
Hughes, Byron	Professional Lecturer	Director	69,547	CY
Jimenez Gordon, Nannette	Professional Lecturer	Assistant Director	54,706	CY
Johnson, Jason	Professional Lecturer		46,035	CY
Keene, Frances	Professional Lecturer	Chief of Operations	91,972	CY
Kovacs, Hillary	Professional Lecturer		32,637	CY
Laughlin, Laura	Professional Lecturer		33,567	CY
Mandala, Chad	Professional Lecturer		33,567	CY
Martinelli, Linzy	Professional Lecturer		32,736	CY
McCrery, Ennis	Professional Lecturer		63,591	CY
Moholland, Caraline	Professional Lecturer		33,567	CY
Myers, Janine	Professional Lecturer		41,796	CY
Penven, James	Professional Lecturer	Associate Director	76,725	CY
Polidoro, Kathryn	Professional Lecturer		47,500	CY
Read, James	Professional Lecturer		34,616	CY
Rose, Bryan	Professional Lecturer		32,480	CY
Russo, Kathryn	Professional Lecturer		33,358	CY
Settle, Rohsaan	Professional Lecturer	Associate Director	75,747	CY
Ward, Leah	Professional Lecturer		33,996	CY
Williams, Tavianna	Professional Lecturer		42,959	CY
Woods-Johnson, Kelley	Professional Lecturer	Assistant Director	49,616	CY

Student Affairs Alcohol Programming

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Redding, Joshua	Professional Lecturer		52,015	CY
Student Centers and A	<u>Activities</u>			
Simmons, Angela	Administrative Lecturer	Assistant Vice President	122,760	CY
Boucher, Robin	Professional Lecturer		50,995	CY
Burrell, Stephen	Professional Lecturer	Assistant Director	51,082	CY
Evans, Heather	Professional Lecturer	Director	74,367	CY
Williams, Jaime	Professional Lecturer	Assistant Director	49,431	CY
Thomas Cook Counse	eling Center Auxiliary			
Klein, Rita	Professional Assistant Prof		85,672	CY
Amenkhienan, Charlotte	Professional Lecturer		78,889	CY
Arbuckle, Vicki	Professional Lecturer	Assistant Director	90,691	AY
Bennett, Gary	Professional Lecturer		79,431	CY
Betzel, Cathye	Professional Lecturer	Assistant Director	84,019	CY
Chapman, Aliya	Professional Lecturer		46,901	CY
Davis, Trent	Professional Lecturer		65,594	CY
DeLoveh, Heidi	Professional Lecturer		57,482	CY
Epperson, Anna	Professional Lecturer		50,000	CY
Eversole, Amber	Professional Lecturer		49,368	CY
Fink, Krysta	Professional Lecturer		59,646	CY
Flynn, Christopher	Professional Lecturer	Director	127,725	CY
Frieben, Joseph	Professional Lecturer		134,505	CY
Haak, Patricia	Professional Lecturer		52,000	CY
Kellar, Lauren	Professional Lecturer		53,196	CY
Patishnock, Mark	Professional Lecturer		58,502	CY
Reinhard, James	Professional Lecturer		181,939	CY
Ritchey, Robert	Professional Lecturer		69,330	CY
Shen, Claire	Professional Lecturer		51,501	CY
Sturgis, Ellie	Professional Lecturer	Assistant Director	91,366	CY
Weese, Anne	Professional Lecturer		59,156	CY
Vice President for Stu	ıdent Affairs - Administra	<u>ition</u>		
Bonner, Cynthia	Administrative Lecturer	Assistant Vice President	143,637	CY
Perillo, Patricia	Administrative Lecturer	Vice President	253,000	CY
Barbour, Kathleen	Professional Lecturer		96,048	CY
VT Engage: Communi	ity Learning Collaborative	<u>e</u>		
Kirk, Gary	Professional Lecturer		89,502	CY
Martin, Perry	Professional Lecturer		62,864	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Advanced Research Co	omputing			
Herdman, Terry	Administrative Professor	Associate Vice President	212,378	CY
Agarwala, Vijay	Professional Lecturer		142,800	CY
Krometis, Justin	Professional Lecturer		93,459	CY
Marshall, Michael	Professional Lecturer		94,100	CY
McClure, James	Professional Lecturer		99,140	CY
Oyekoya, Oyewole	Professional Lecturer		67,120	CY
Polys, Nicholas	Professional Lecturer		111,360	CY
Rajamohan, Srijith	Professional Lecturer		82,000	CY
Yarlanki, Srinivas	Professional Lecturer		96,651	CY
Collaborative Computing	ng Solutions			
DeBonis, Marcus	Professional Lecturer		122,880	CY
Communications Netwo	ork Services			
Brown, Eric	Professional Lecturer		98,542	CY
Dougherty, William	Professional Lecturer		147,455	CY
Hach, Richard	Professional Lecturer		111,461	CY
Potters, Rachel	Professional Lecturer		76,650	CY
Rodgers, Patricia	Professional Lecturer		125,309	CY
Digital Imaging and Arc	chiving			
Inman, Donald	Professional Lecturer		52,974	CY
Enterprise Systems				
Crockett, Randal	Administrative Instructor		110,050	CY
Fulton, Deborah	Administrative Lecturer	Associate Vice President	165,486	CY
Anderson, Kathleen	Professional Lecturer		63,025	CY
Becksted, Patricia	Professional Lecturer		72,065	CY
Brewster, Jeffrey	Professional Lecturer		84,780	CY
Buhrdorf, Kevin	Professional Lecturer		99,350	CY
Carpenter, Andrew	Professional Lecturer		94,000	CY
Carpenter, Michael	Professional Lecturer		71,000	CY
Castle, Steven	Professional Lecturer		85,825	CY
Chittenden, Timothy	Professional Lecturer		75,500	CY
Clemons, Jason	Professional Lecturer		63,730	CY
Conley, Wesley	Professional Lecturer		59,500	CY
Conner, Sabrina	Professional Lecturer		56,620	CY
Covey, Lucas	Professional Lecturer		89,485	CY
Cupp, Matthew	Professional Lecturer		59,215	CY
Durrani, Hashim	Professional Lecturer		86,970	CY
Ellison, Ryan	Professional Lecturer		68,960	CY
Ervine, Michelle	Professional Lecturer		69,040	CY
Fenn, Russell	Professional Lecturer		89,300	CY
Flora, Michael	Professional Lecturer		62,750	CY

			Recommended Salary	
<u>Name</u>	<u>Rank</u>	<u>Title</u>	For 2015 - 2016	<u>Appt</u>
Herr, Christian	Professional Lecturer		64,098	CY
Herrington, Amanda	Professional Lecturer		90,690	CY
Herrington, William	Professional Lecturer		63,020	CY
Howard, Andrea	Professional Lecturer		63,115	CY
Ingram, Henry	Professional Lecturer		72,400	CY
Johnson, Debra	Professional Lecturer		103,970	CY
Johnson, Kara	Professional Lecturer		54,565	CY
Lewis, Wallace	Professional Lecturer		75,000	CY
Linkous, Janet	Professional Lecturer		107,300	CY
MacInnis, Brian	Professional Lecturer		75,360	CY
Mallikarjunan, Vijayalakshmi	Professional Lecturer		59,757	CY
McClafferty, Mark	Professional Lecturer		65,215	CY
McCrery, Kenneth	Professional Lecturer		118,790	CY
McElmurray, Philip	Professional Lecturer		57,115	CY
Pena, Ariel	Professional Lecturer		72,115	CY
Penland, Ernest	Professional Lecturer		99,250	CY
Quintin, Richard	Professional Lecturer		101,650	CY
Ratliff, Andrew	Professional Lecturer		63,440	CY
Rooney, Kevin	Professional Lecturer		99,450	CY
Rush, Jennifer	Professional Lecturer		71,500	CY
Sanborn, Brent	Professional Lecturer		58,085	CY
Shrestha, Jitendra	Professional Lecturer		72,342	CY
Smith, Arnold	Professional Lecturer		103,500	CY
Smith, Kimberly	Professional Lecturer		85,170	CY
Vamanan Nampoothiri, Smitha	Professional Lecturer		69,700	CY
Wilson, Glenda	Professional Lecturer		56,045	CY
Geospatial Application	Development and Admin	istration		
Peery, Stephen	Professional Lecturer		98,562	CY
van Gelder, Brenda	Professional Lecturer		119,100	CY
Information Technology	Security			
Kobezak, Philip	Professional Lecturer		76,000	CY
Lancaster, Elizabeth	Professional Lecturer		71,300	CY
Lang, Jeffry	Professional Lecturer		70,600	CY
Marchany, Randolph	Professional Lecturer		126,441	CY
Tilley, Richard	Professional Lecturer		99,340	CY
Welte, Paul	Professional Lecturer		61,140	CY
Identity Management Se	rvices			
Connelly, Jason	Professional Lecturer		85,675	CY
Herrington, Karen	Professional Lecturer		96,333	CY
Kethineedi, Kalpana	Professional Lecturer		74,099	CY
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<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Branscome, Patricia	Professional Lecturer		82,090	CY
Layman, Barbara	Professional Lecturer		68,300	CY
Secure Enterprise Tec	hnology Initiatives			
Dunker, Mary	Administrative Lecturer		127,006	CY
Addison, Marvin	Professional Lecturer		68,378	CY
Anderson, Michael	Professional Lecturer		84,660	CY
Fisher, Daniel	Professional Lecturer		88,737	CY
Long, Brian	Professional Lecturer		73,686	CY
Memisyazici, Erdem	Professional Lecturer		51,891	CY
Nguyen, Ha Trung	Professional Lecturer		62,988	CY
Systems Engineering	and Administration			
Sawyers, Brandon	Professional Lecturer		78,530	CY
Snapp, Christopher	Professional Lecturer		84,700	CY
Technology-enhanced	Learning and Online Strat	tegies_		
Sanders, William	Administrative Assistant Prof		109,905	CY
Pike, Dale	Administrative Lecturer		143,350	CY
Worley, Gary	Administrative Lecturer	Director	98,326	CY
Adams, David	Professional Lecturer		72,310	CY
Baab, Lujean	Professional Lecturer		97,395	CY
Bond, Mark	Professional Lecturer		81,557	CY
Broniak, Brian	Professional Lecturer		96,886	CY
Dickert, Robert	Professional Lecturer		80,674	CY
Edmison, Kenneth	Professional Lecturer		85,635	CY
English, Mary	Professional Lecturer		80,340	CY
Fink, Jonathan	Professional Lecturer		50,000	CY
Fowler, Shelli	Professional Lecturer		96,885	CY
Francis, Nathan	Professional Lecturer		49,932	CY
Gilmore, Eric	Professional Lecturer		69,540	CY
Hestnes, Oddbjoern	Professional Lecturer		54,914	CY
Hu, Deyu	Professional Lecturer		59,977	CY
Kelley, Cynthia	Professional Lecturer		84,409	CY
Kensler, Jonathan	Professional Lecturer		60,434	CY
Meese, Jack	Professional Lecturer		71,225	CY
Najdi, Jihane	Professional Lecturer		69,579	CY
Ogle, Jeffrey	Professional Lecturer		87,230	CY
Overton, Stephanie	Professional Lecturer Professional Lecturer	Interim Director	53,114 70,901	CY CY
Summers, Teggin Thacker, April	Professional Lecturer	menin birector	53,489	CY
Walker, Jacques	Professional Lecturer		48,117	CY
Williams, Daron	Professional Lecturer		61,168	CY
Zaldivar, Marc	Professional Lecturer		69,115	CY
Zhang, Ruiling	Professional Lecturer		53,012	CY
deWindt, William	Professional Lecturer		64,240	CY
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			Recommended Salary	
<u>Name</u>	<u>Rank</u>	<u>Title</u>	For 2015 - 2016	<u>Appt</u>
Telecommunications	Auxiliary			
Harris, Carl	Administrative Lecturer		170,325	CY
Smith, Roy	Administrative Lecturer		90,975	CY
Coleman, Billy	Professional Lecturer		83,500	CY
Copenhaver, Kristin	Professional Lecturer		76,919	CY
Crowder, Jeffrey	Professional Lecturer		161,986	CY
Fotedar, Ajinkya	Professional Lecturer		57,185	CY
Gardner, Mark	Professional Lecturer		120,938	CY
Gausepohl, Kimberly	Professional Lecturer		63,250	CY
Vice President for Inf	ormation Technology - Adı	ministration_		
Midkiff, Scott	Administrative Professor	Vice President	308,152	CY
Brooker-Gross, Susan	Professional Associate Prof		130,586	CY
Krallman, John	Administrative Lecturer		128,554	CY
Gilbert, Claire	Professional Lecturer		81,800	CY
Kroll, Gregory	Professional Lecturer		94,531	CY
Ransbottom, Jeffrey	Professional Lecturer		124,369	CY
Virginia Tech Operati	ions Center			
Landreth, Joyce	Professional Lecturer		84,511	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
4-H Centers and Admin	istration			
Price, Tonya	Assistant Professor		82,097	CY
Atkinson, Melvin	Professional Lecturer		61,857	CY
Branch, Bryan	Professional Lecturer		56,753	CY
Brown, Ruben	Professional Lecturer		38,872	CY
Ellmore, Roger	Professional Lecturer		102,770	CY
Fisher, Sandra	Professional Lecturer		75,944	CY
Harpole, Douglas	Professional Lecturer		61,890	CY
Iden, Charles	Professional Lecturer		50,490	CY
Johnson, Jeremy	Professional Lecturer		54,640	CY
Makufka, Craig	Professional Lecturer		34,338	CY
Martin, Michael	Professional Lecturer		99,620	CY
McKeon, Jessica	Professional Lecturer		33,620	CY
Morton, Sarah	Professional Lecturer		84,048	CY
Raines, Robyn	Professional Lecturer		54,631	CY
Central District Coopera	ative Extension			
Abston, Therese	Professional Lecturer		53,526	CY
Alt, Theresa	Professional Lecturer		48,744	CY
Baker, Scott	Professional Lecturer		67,273	CY
Baney, Jinx	Professional Lecturer		69,685	CY
Barrow, Melanie	Professional Lecturer		53,178	CY
Barts, Stephen	Professional Lecturer		49,790	CY
Bowen, Jason	Professional Lecturer		50,702	CY
Bowen, Jennifer	Professional Lecturer		58,229	CY
Brown, Christopher	Professional Lecturer		41,340	CY
Bunn, Travis	Professional Lecturer		45,454	CY
Byrd, Carol	Professional Lecturer		58,541	CY
Camm, Kevin	Professional Lecturer		47,075	CY
Carrington, Anne-Carter	Professional Lecturer		67,619	CY
Clarke, C	Professional Lecturer		61,521	CY
Crews, Sarah	Professional Lecturer		38,139	CY
Daniel, Donna	Professional Lecturer		52,355	CY
Dolan, Amanda	Professional Lecturer		36,244	CY
Duff, Sean	Professional Lecturer		40,840	CY
Eanes, Linda	Professional Lecturer		46,178	CY
Elam, Leonard	Professional Lecturer		62,504	CY
Elliott, Alyssa	Professional Lecturer		36,744	CY
Fisher, Kevin	Professional Lecturer		65,303	CY
Furgurson, Sonya	Professional Lecturer		57,040	CY
Gill, Afton	Professional Lecturer		35,744	CY
Goerlich, Daniel	Professional Lecturer	District Director	85,010	CY
Gregg, Cynthia	Professional Lecturer		60,049	CY

Nama	Donk	Title	Recommended Salary	Annt
<u>Name</u>	Rank	<u>Title</u>	For 2015 - 2016	<u>Appt</u>
Grosse, Rachel	Professional Lecturer		42,840	CY
Hairston, Brian	Professional Lecturer		56,868	CY
Hawkins, Amy	Professional Lecturer		52,114	CY
Hawse, Emily	Professional Lecturer		50,339	CY
Haynes, Brenda	Professional Lecturer		39,445	CY
Henderson, Jane	Professional Lecturer		70,307	CY
Howland, Catherine	Professional Lecturer		48,932	CY
Irvin, Kevin	Professional Lecturer		71,455	CY
Jones, Bruce	Professional Lecturer		67,449	CY
Jones, Robert	Professional Lecturer		59,842	CY
Lachance, Michael	Professional Lecturer		59,284	CY
Ligon, Jennifer	Professional Lecturer		49,790	CY
Marks, Darla	Professional Lecturer		47,084	CY
Martel, Cynthia	Professional Lecturer		45,540	CY
Miller, Caitlin	Professional Lecturer		37,139	CY
Morrison, Robbie	Professional Lecturer		46,240	CY
Nauta, Ashley	Professional Lecturer		40,744	CY
Norton, Haley	Professional Lecturer		42,040	CY
Norton, Nichole	Professional Lecturer		38,744	CY
Overby, Kathryn	Professional Lecturer		38,139	CY
Parrish, Michael	Professional Lecturer		68,868	CY
Pierce, Drexel	Professional Lecturer		43,840	CY
Prillaman, Susan	Professional Lecturer		59,741	CY
Robbins, Hannah	Professional Lecturer		34,744	CY
Robinson, Dillon	Professional Lecturer		34,744	CY
Scott, Michael	Professional Lecturer		60,534	CY
Siegle, Laura	Professional Lecturer		42,640	CY
Smith, David	Professional Lecturer		54,712	CY
Stokes, Pauline	Professional Lecturer		38,744	CY
Stowe, Jamie	Professional Lecturer		53,736	CY
Sutphin, Stuart	Professional Lecturer		66,304	CY
Tanner, Karen	Professional Lecturer		51,640	CY
Tillotson, Bonnie	Professional Lecturer		47,958	CY
Totten, Tadashi	Professional Lecturer		47,395	CY
Tucker, Lindy	Professional Lecturer		39,040	CY
Wallace, Ruth	Professional Lecturer		63,025	CY
Wilson, Amber	Professional Lecturer		48,065	CY
Wilson, Corissa	Professional Lecturer		38,244	CY
Woodson, Thomas	Professional Lecturer		40,639	CY
North our Pict 1 C	andia Fadan ita			
Northern District Coope	.			
Abel, Jennifer	Professional Lecturer		68,332	CY
Alstat, Kathryn	Professional Lecturer		62,409	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Anglin, Kaila	Professional Lecturer		42,339	CY
Benner, John	Professional Lecturer		37,639	CY
Booher, Dara	Professional Lecturer		46,610	CY
Booher, Matthew	Professional Lecturer		49,139	CY
Bordas, Adria	Professional Lecturer		77,552	CY
Broaddus, Michael	Professional Lecturer		50,339	CY
Buhls, Kirsten	Professional Lecturer		54,799	CY
Callan, Peter	Professional Lecturer		59,990	CY
Childs, Clay	Professional Lecturer		76,910	CY
Clark, Robert	Professional Lecturer		62,252	CY
Clem, Nicole	Professional Lecturer		42,095	CY
Cooper, Jason	Professional Lecturer		48,244	CY
Daniel, Katherine	Professional Lecturer		55,710	CY
Daubert, Jeremy	Professional Lecturer		49,139	CY
Davis, Rebecca	Professional Lecturer		63,139	CY
Diehl, Stephanie	Professional Lecturer		68,765	CY
Dillion, Deborah	Professional Lecturer		64,139	CY
Downing, Adam	Professional Lecturer		60,683	CY
Hilleary, James	Professional Lecturer		70,139	CY
Hopkins, Crysti	Professional Lecturer		51,639	CY
Hopkins, Steven	Professional Lecturer		67,223	CY
Horn, Douglas	Professional Lecturer		55,744	CY
Howe, John	Professional Lecturer		64,935	CY
Jarvis, Leon	Professional Lecturer		65,602	CY
King, Linda	Professional Lecturer		52,890	CY
Kloetzli, Cathryn	Professional Lecturer		48,745	CY
Leech, Rodney	Professional Lecturer		74,926	CY
Lillard, Clare	Professional Lecturer		52,744	CY
Love, Kenner	Professional Lecturer		58,862	CY
Mallory, Kelly	Professional Lecturer		49,527	CY
Marston, Cynthia	Professional Lecturer	District Director	95,230	CY
Mayo, Kimberly	Professional Lecturer		59,464	CY
Misch, Teresa	Professional Lecturer		44,139	CY
Mize, Timothy	Professional Lecturer		62,973	CY
Morris, Reginald	Professional Lecturer		52,139	CY
Mosley, Cristy	Professional Lecturer		54,022	CY
Mussey, Guy	Professional Lecturer		68,427	CY
Nagurny, Samantha	Professional Lecturer		41,139	CY
Nansel, Carol	Professional Lecturer		64,672	CY
Nguyen, Lenah	Professional Lecturer		56,133	CY
Ohlwiler, Timothy	Professional Lecturer		56,125	CY
Pasquarelli, lan	Professional Lecturer		41,139	CY
Payne, April	Professional Lecturer		43,244	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Poff, Karen	Professional Lecturer		61,944	CY
Puryear, Cindy	Professional Lecturer		47,139	CY
Reiersgaard, Emily	Professional Lecturer		44,500	CY
Rij, Ursula	Professional Lecturer		38,139	CY
Rosson, Charles	Professional Lecturer		57,831	CY
Rothwell, Marie	Professional Lecturer		41,244	CY
Sheffield, Rebecca	Professional Lecturer		52,340	CY
Simons, Amanda	Professional Lecturer		43,327	CY
Sohail, Maria	Professional Lecturer		50,000	CY
Sponaugle, Kari	Professional Lecturer		37,139	CY
Sprenger, Cristin	Professional Lecturer		53,759	CY
Stafford, Carl	Professional Lecturer		65,501	CY
Stanley, Thomas	Professional Lecturer		57,238	CY
Stegon, Nancy	Professional Lecturer		53,202	CY
Strong, Kathryn	Professional Lecturer		55,140	CY
Sutphin, Mark	Professional Lecturer		59,923	CY
Swanson, Carrie	Professional Lecturer		56,334	CY
Temple, Karrin	Professional Lecturer		41,139	CY
Thacker, Paige	Professional Lecturer		63,714	CY
Thomas, Kathryn	Professional Lecturer		40,944	CY
Thompson, Jennifer	Professional Lecturer		48,827	CY
Thompson, John	Professional Lecturer		51,243	CY
Upchurch, Landon	Professional Lecturer		34,744	CY
Walden, Alyssa	Professional Lecturer		49,140	CY
Wright, LaWanda	Professional Lecturer		59,783	CY
Southeast District Coop	perative Extension			
Allison, John	Professional Lecturer		55,539	CY
Andrewskiewicz, Mary	Professional Lecturer		38,340	CY
Andruczyk, Michael	Professional Lecturer		53,632	CY
Baker, Karen	Professional Lecturer		52,678	CY
Barber, Crystal	Professional Lecturer		57,282	CY
Baskfield-Heath, Doris	Professional Lecturer		81,000	CY
Brent, Tara	Professional Lecturer		45,940	CY
Brockway, Celia	Professional Lecturer		38,895	CY
Brooks, Sally	Professional Lecturer		44,244	CY
Brown, Austin	Professional Lecturer		39,244	CY
Carter, Karen	Professional Lecturer		70,185	CY
Clark, Neil	Professional Lecturer		61,282	CY
Cole, Linda	Professional Lecturer		54,598	CY
Costanza, Gregory	Professional Lecturer		49,744	CY
Council, Brittany	Professional Lecturer		39,144	CY
Davis, Andrea	Professional Lecturer		48,139	CY

<u>Name</u>	<u>Rank</u>	<u>Title</u>	Recommended Salary For 2015 - 2016	<u>Appt</u>
Deitch, Ursula	Professional Lecturer		39,840	CY
Edmonds, Kimberly	Professional Lecturer		59,235	CY
Eigel, Bethany	Professional Lecturer		54,379	CY
Elmer, Billie	Professional Lecturer		71,087	CY
Flanagan, Roy	Professional Lecturer		51,340	CY
Fogel, Jonah	Professional Lecturer		61,204	CY
Frick, Carl	Professional Lecturer		43,000	CY
Gustafson, Krista	Professional Lecturer		49,532	CY
Hahn, Johanna	Professional Lecturer		63,853	CY
Herdman, Wendy	Professional Lecturer		48,841	CY
Jones, Danielle	Professional Lecturer		50,537	CY
Jones, Robert	Professional Lecturer		35,744	CY
Kelly, Lanette	Professional Lecturer		45,239	CY
Kindred, Gina	Professional Lecturer		71,357	CY
Kirby, Katrina	Professional Lecturer		42,339	CY
Lawrence, Marion	Professional Lecturer		73,061	CY
Lomax, Twandra	Professional Lecturer		49,951	CY
Long, Theresa	Professional Lecturer		39,239	CY
Maclin, Hermon	Professional Lecturer		61,672	CY
Mallory, Sharon	Professional Lecturer		57,091	CY
Maxey Nay, Laura	Professional Lecturer		42,740	CY
Menchhofer, Erin	Professional Lecturer		44,740	CY
Mernin, Christopher	Professional Lecturer		39,340	CY
Midkiff, Judith	Professional Lecturer		85,773	CY
Mitchell, Sonja	Professional Lecturer		41,244	CY
Moore, David	Professional Lecturer		76,230	CY
Munden, Karen	Professional Lecturer		73,215	CY
Newby, Shevonne	Professional Lecturer		44,744	CY
Nortman, Daniel	Professional Lecturer		46,987	CY
O'Keefe, Christine	Professional Lecturer		36,000	CY
Pearson, Jocelyn	Professional Lecturer		46,987	CY
Reiter, James	Professional Lecturer		55,696	CY
Romelczyk, Stephanie	Professional Lecturer		45,340	CY
Ruszczyk-Murray, Christina	Professional Lecturer		47,740	CY
Sanderson, Lisa	Professional Lecturer		54,147	CY
Sani, Amy	Professional Lecturer		47,500	CY
Schalk, Rita	Professional Lecturer		59,867	CY
Slade, Glenn	Professional Lecturer		60,246	CY
Spencer, Janet	Professional Lecturer		56,862	CY
Steffey, Karlee	Professional Lecturer		36,139	CY
Stormer, Eric	Professional Lecturer		47,339	CY
Sturm, Glenn	Professional Lecturer		38,539	CY
Tierney, Megan	Professional Lecturer		50,503	CY

Nam <u>e</u>	Rank <u>Title</u>	Recommended Salary For 2015 - 2016	Appt
Tull, Jacqueline	Professional Lecturer	54,462	CY
Tyler-Mackey, Crystal	Professional Lecturer	69,574	CY
Vargo, Ann	Professional Lecturer	42,445	CY
Wells, Kelvin	Professional Lecturer	66,278	CY
White, LaSonya	Professional Lecturer	50,744	CY
Williams, Marcus	Professional Lecturer	38,139	CY
Wyskiewicz, Cynthia	Professional Lecturer	56,998	CY
Yager, Kristina	Professional Lecturer	37,139	CY
Young, Kendra	Professional Lecturer	55,753	CY
Southwest District Co	onerative Extension		
Allen, George	Professional Lecturer	57,335	CY
Barnes, Laquita	Professional Lecturer	65,222	CY
Belcher, Shelia	Professional Lecturer	50,527	CY
Blankenship, John	Professional Lecturer	65,904	CY
Blevins, Philip	Professional Lecturer	80,477	CY
Burkett, Sarah	Professional Lecturer	83,444	CY
Carter, Katherine	Professional Lecturer	45,540	CY
Chappell, Deborah	Professional Lecturer	57,665	CY
Davis, Jennifer	Professional Lecturer	37,744	CY
Dickerson, Ambre	Professional Lecturer	63,471	CY
Estep, Cornelia	Professional Lecturer	59,434	CY
Fannon-Osborne, Amy	Professional Lecturer	46,825	CY
Farmer, Erin	Professional Lecturer	42,039	CY
Grimes, Kelsey	Professional Lecturer	40,540	CY
Havlik, Dorothy	Professional Lecturer	40,445	CY
Hodges, Amber	Professional Lecturer	37,713	CY
Hodges, Christine	Professional Lecturer	54,694	CY
Jerrell, Scottie	Professional Lecturer	53,919	CY
Jessee, Denny	Professional Lecturer	59,110	CY
Johnson, Elizabeth	Professional Lecturer	56,182	CY
Kopp, Lauren	Professional Lecturer	41,000	CY
Lawrence, Mary	Professional Lecturer	38,208	CY
Layton-Dudding, Jeannie	Professional Lecturer	47,639	CY
Leech, Samuel	Professional Lecturer	34,744	CY
Lichty, Christopher	Professional Lecturer	56,226	CY
McFarland, Mary	Professional Lecturer	70,215	CY
Meade, Donna	Professional Lecturer	49,131	CY
Meeks, Phillip	Professional Lecturer	52,340	CY
Miller, Matthew	Professional Lecturer	53,816	CY
Mullins, Jeannie	Professional Lecturer	54,910	CY
Mullins, William	Professional Lecturer	54,742	CY

			Recommended Salary	L
<u>Name</u>	<u>Rank</u>	<u>Title</u>	For 2015 - 2016	Appt
Overbay, Andrew	Professional Lecturer		73,949	CY
Painter, Tyler	Professional Lecturer		40,539	CY
Paulette, Morgan	Professional Lecturer		38,744	CY
Peek, Crystal	Professional Lecturer		56,048	CY
Peek, Danny	Professional Lecturer		83,050	CY
Pickett, Tonya	Professional Lecturer		35,244	CY
Pomfrey, Emily	Professional Lecturer		36,244	CY
Pottorff, Stephen	Professional Lecturer		50,139	CY
Prillaman, Leslie	Professional Lecturer		71,097	CY
Robinson, Amber	Professional Lecturer		39,139	CY
Romano, Timothy	Professional Lecturer		37,740	CY
Rose, Kelly	Professional Lecturer		43,539	CY
Scott, Kelli	Professional Lecturer		44,139	CY
Shortridge, Sandra	Professional Lecturer		50,513	CY
Slack, Suzanne	Professional Lecturer		34,744	CY
Spurlin, Kevin	Professional Lecturer		55,361	CY
Vest, Jonathan	Professional Lecturer		56,153	CY
Worrell, William	Professional Lecturer		62,750	CY
Virginia Cooperativ	e Extension			
Balderson, Thomas	Professional Lecturer		70,796	CY

Abbreviations:

AY - Academic Year

CY - Calendar Year

RE10 - Research Extended 10 Month Appointment RE11 - Research Extended 11 Month Appointment RE12 - Research Extended 12 Month Appointment

Committee Meeting Minutes

ACADEMIC AFFAIRS COMMITTEE

Virginia Tech Research Center – Arlington Vienna Room 8:30 – 10:30 a.m.

August 31, 2015

Board Members Present:

Tom Ryan (chair), B. K. Fulton, Mehmood Kazmi, Rami Dalloul (faculty representative), Mohammed Seyam (graduate student representative)

Guests:

Matt Chan, Wanda Dean, Karen DePauw, Jack Finney, Guru Ghosh, Rachel Holloway, Ellen Plummer, Thanassis Rikakis, Tim Sands, Ken Smith, David Travis

OPEN SESSION

- 1. Welcome. Tom Ryan, academic affairs committee chair, welcomed committee members and guests. Ryan welcomed executive vice president and provost Thanassis Rikakis. Ryan encouraged committee members to focus on the future of higher education by learning about the enterprise and how Virginia Tech can be at the vanguard. Ryan asked members of the committee and attendees to introduce themselves.
- Review of 2014-2015 Academic Affairs Committee Accomplishments. Ryan reviewed the committee's accomplishments and highlighted the various areas of focus for the committee.
- 3. Approval of Minutes.

A motion passed unanimously to approve the minutes of the committee's June 1, 2015 meeting.

4. Report of Closed Session Action Items. In Closed Session, the committee considered eight appointments to emeritus status, three appointments to endowed professorships or fellowships, one request for a faculty research leave, one exception to the Virginia Conflict of Interest Act, and ratified the faculty personnel changes report.

All resolutions were unanimously approved and the report was ratified. The session was formally certified and the committee moved to open session.

5. Provost's Update. Thanassis Rikakis, executive vice president and provost, updated the committee on the search for the vice president for research and innovation. Eight semi-finalists have been identified and the plan is to announce the successful candidate in November. Three finalists have been selected for the position of senior advisor to the president and vice provost for inclusion and diversity. The plan is to have this person in place by January of 2016.

Rikakis updated the committee on enrollments. The final census will occur on September 21. The applicant pool was very strong and resulted in a larger than expected yield. Heroic efforts have accommodated the needs for instructional, housing, dining, and student support. Enrollment success is due in large part to improved college recruitment efforts and the attractiveness of new and refreshed degrees. In addition to students, new degrees have attracted new faculty leaders in neuroscience and computational modeling and data analytics. Mapping to the market is crucial for generating student interest, maintaining strong enrollments, and the recruitment of top notch faculty leaders.

Overall on-campus enrollment is 30,472, a 4.9% increase over 2014. Undergraduate enrollment is 25,419, a 4.5% increase over 2014. First year enrollment is 6,313, a 16.4% increase over 2014 (892 students). Undergraduate transfer enrollments are 992, a 1.5% increase over 2014. Blacksburg graduate enrollment is 4,567, a 7.1% increase over 2014. This reverses the downward trend of the past few years. The College of Veterinary Medicine DVM class is 465, a 4.5% increase over 2014.

The first year entering class in all undergraduate colleges is up:

- Liberal Arts and Human Sciences 36%
- Engineering 24%
- Architecture and Urban Studies 19%
- Six of seven colleges are up in total undergraduate enrollment

It is important for the university to continue to integrate the disciplines such as technology, the humanities, and social science. Prospective students are looking for opportunities for integrated learning across multiple disciplines. Virginia Tech can differentiate itself from other institutions in the Commonwealth.

A focus on drawing highly talented students from diverse backgrounds requires a financial commitment and investments in a financial pipeline that includes public and private partnerships with K12 to support students' interest in STEM-H. The university must also retain students and faculty using multiple methods of retention.

Enrollment growth continues to be a goal and requires dedicated attention to facilities and faculty. This year's enrollment growth was higher than expected, but manageable in the short term. Discussions will result in setting enrollment targets that are likely to be around 5,900 students next year.

Recruitment, yield, and retention efforts will benefit from InclusiveVT activities designed to enhance the experiences of students, faculty, and the community.

Quality matrices help monitor the impact of enrollment growth on faculty/student ratios and on facilities.

6. Faculty Affairs.

a. Resolution to Ratify the 2015-2016 Faculty Handbook. Jack Finney, vice provost for faculty affairs, presented to the committee a resolution to ratify the 2015 – 2016 Faculty Handbook.

The Resolution to Ratify the 2015-2016 Faculty Handbook was approved unanimously.

7. Academic Administration

a. Resolution to Approve Revision of the Commission on Equal Opportunity and Diversity's Charge. Jack Finney presented to the committee a resolution to revise the charge of the Commission on Equal Opportunity and Diversity.

The Resolution to Approve Revision of the Commission on Equal Opportunity and Diversity's Charge was approved unanimously.

- b. Update on the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) Fifth-year Interim Report. Ken Smith, vice provost for resource management and institutional effectiveness, updated the committee on the university's accreditation processes. SACSCOC has accepted Virginia Tech's Fifth-Year Report. The SACSCOC has requested additional information in two areas: the calculation of credit hours for on-line and in-classroom instruction, and the use of learning outcomes in selected graduate education programs.
- **9. Adjournment.** The meeting adjourned at 10:45.

Summary

Reappointments to Endowed Chairs, Professorships, or Fellowships (1)

August 31, 2015

College of Science

Aris Spanos

Wilson E. Schmidt Professorship in Economics

RESOLUTION TO RATIFY THE 2015-2016 FACULTY HANDBOOK

WHEREAS, the Faculty Handbook is the record for policies pertaining to all types of faculty employees; and

WHEREAS, the oversight of policies governing all types of faculty employees at the university is the responsibility of the Board of Visitors; and

WHEREAS, the Faculty Handbook is revised annually to incorporate editorial updates, new or amended policies; and

WHEREAS, to ensure that the Faculty Handbook reflects the policies passed by the board and that any changes to the handbook are appropriate and accurate, the board annually reviews and ratifies a revised edition of the Faculty Handbook;

NOW, THEREFORE, BE IT RESOLVED that the Virginia Tech Board of Visitors hereby ratifies the August 31, 2015 version of the Faculty Handbook that incorporates the revisions summarized in the attachment.

RECOMMENDATION:

That the 2015-2016 Faculty Handbook be ratified.

August 31, 2015

SIGNIFICANT REVISIONS INCORPORATED INTO THE 2015-2016 FACULTY HANDBOOK

1.0 Mission and Governance of the University

Revised titles throughout chapter

- senior vice president and provost to executive president and provost
- vice president for research and innovation

Section 1.4.2

 added senior advisor to the president and vice provost for inclusion and diversity

2.0 Employment Policies and Procedures for All Faculty

Revised titles throughout chapter

- senior vice president and provost to executive president and provost
- vice president for research and innovation

Section 2.7.1

 Revised to include self-plagiarism language included in University Policy 13020 "Policy on Misconduct in Research", passed University Council on April 20, 2015.

Section 2.7.7

- Added contact information for filing a complaint, as passed by the Board of Visitors June 1, 2015
- Added language encouraging reports to Virginia Tech Police Department as required by state law effective July 1, 2015

New Section: 2.7.8

- Definitions of sexual violence, approved by the Board of Visitors June 1, 2015
- Renumbered sections 2.7.8 through 2.7.10

Section 2.14.1

 Added reference to University Policy 5000 "University Facilities Usage and Event Approval"

Section 2.16

 Revised to refer the reader to University Policy 13010 "Individual Conflicts of Interest and Commitment" policy statement

Sections 2.16.1 through 2.16.5

Deleted sections, refer reader to University Policy 13010

Section 2.16.2 – 2.16.7

Renumbered

3.0 Employment Policies and Procedures for Tenured and Tenure-Track Faculty

Revised title throughout chapter

- senior vice president and provost to executive president and provost
- Office of the Executive Vice President and Provost

4.0 Employment Policies and Procedures for Faculty with Continued Appointment or on the Continued Appointment-Track

Revised title throughout chapter

• Office of the Executive Vice President and Provost

5.0 Employment Policies and Procedures for Non-Tenure-Track Instructional Faculty

Revised titles throughout chapter

- senior vice president and provost to executive president and provost
- vice president for research and *innovation*

6.0 Employment Policies and Procedures for Research Faculty

Revised titles throughout chapter

- senior vice president and provost to executive president and provost
- vice president for research and innovation

7.0 Employment Policies and Procedures for Administrative and Professional Faculty

Revised title throughout chapter

- senior vice president and provost to executive president and provost Sections 7.1, 7.2.2, 7.2.3
 - Edited for clarity

Sections 7.7.1, 7.7.2, 7.7.4, 7.7.5, 7.7.6

 Revised to reflect changes to the A/P Faculty Grievance process; approved by the Board of Visitors on March 30, 2015

8.0 Employment Policies and Procedures for Graduate Assistants

No edits

9.0 Instruction-Related Policies

Revised title throughout chapter

- senior vice president and provost to executive president and provost
 Section 9.3.1
 - Edited to reflect consistency with federal privacy regulations

Section 9.3.3

 Edited to reflect current practice: class rolls are available on line and are not printed

Section 9.5

 Edited to reflect that the policy applies to undergraduate and graduate students

Sections 9.6.4, 9.6.5

Edited for clarity

Section 9.6.5.1

 New section reflecting passage of Administrative Policy 6125, Administrative Policy Governing Student Academic Complaints, signed February 10, 2015 by Senior Vice President and Provost Mark G. McNamee

Section 9.12.1

Revised to reflect that Virginia Tech emails are approved as directory information

Section 9.15

Updated list of academic awards

10.0 Research, Creative, and Scholarly Activities

Revised titles throughout chapter

- senior vice president and provost to executive president and provost
- vice president for research and *innovation*

Section 10.1.5 - 10.1.9

- Edited for clarity and language consistent with federal policy and guidelines Section 10.2.2
 - Added "including self-plagiarism"

Section 10.2.3

- Edited for clarity and language consistent with university policy 13020 "Policy on Misconduct in Research"
- Removed definitions, refer reader to policy

Section 10.3

- Refer reader to University Policy 13025 "Removal of a Principal, Co-Principal or Lead Investigator"
- Deleted section (reader referred to policy)

Section 10.5

• Refer reader to University Policy 13000 "Policy on Intellectual Property"

11.0 Faculty Benefits Program

Section 11.1.1

- Edited to reflect changes to group life insurance per the Commonwealth Section 11.2.11
 - Edited for clarity

Sections 11.2.3, 11.2.4, 11.2.5, 11.2.12, 11.2.13

Edited for consistency with Commonwealth

12.0 Additional Information

No edits

RESOLUTION TO REVISE THE COMMISSION ON EQUAL OPPORTUNITY AND DIVERSITY'S CHARGE

WHEREAS, the current charge of the Commission on Equal Opportunity and Diversity (CEOD) is "to study, formulate, and recommend to University Council policies and procedures as they relate to the university's responsibilities for equal opportunity, affirmative action, accessibility, and compliance; diversity planning and evaluation; diversity training and education; assessment of institutional climate; and similar matters of equity and diversity that affect the university. In collaboration with other university commissions and/or units, the commission will address issues of diversity and equity as they relate to recruitment, retention, and advancement of faculty, staff, and students, particularly those from historically underrepresented groups and from international populations; student life; academic policies and support; curriculum; research, scholarship, and creative activity; and outreach"; and

WHEREAS, Virginia Tech is committed to continuing efforts to advance inclusion and diversity; and

WHEREAS, the CEOD serves as the commission within the university governance structure designed to be a diverse and inclusive representation of students, staff, and faculty; and

WHEREAS, Virginia Tech has implemented a new approach to inclusion and diversity: InclusiveVT:

THEREFORE, NOW, BE IT RESOLVED that the charge to the CEOD be: "to advise the President's Inclusion and Diversity Executive Council and to study, formulate, and recommend to the University Council policies and procedures as they relate to the university's responsibilities regarding equal opportunity, affirmative action, accessibility, compliance, diversity, and inclusion. Areas for consideration include recruitment, retention, and advancement of faculty, staff, and students, in a manner consistent with the university's principles of community and commitment to equal opportunity and access".

RECOMMENDATION:

That the Commission on Equal Opportunity and Diversity's charge be revised to the language stated in the above resolution.

August 31, 2015

Committee Minutes

BUILDINGS AND GROUNDS COMMITTEE

Virginia Tech Research Center Arlington, Virginia

August 31, 2015

Joint Closed Session with Student Affairs and Athletics Committee:

Board Members Present: Dr. Nancy Dye, Mr. William Fairchild, Mr. Michael Quillen, Ms. Deborah Petrine-Rector, Mr. Wayne Robinson, Mr. Mehul Sanghani, Mr. Steve Sturgis, Ms. Morgan Sykes

VPI&SU Staff: Mr. Whit Babcock, Mr. Bob Broyden, Dr. Eleanor Finger, Major General Randy Fullhart, Mr. Mark Gess, Ms. Hunter Gresham, Ms. Kay Heidbreder, Ms. Angela Kates, Dr. Chris Kiwus, Dr. Patricia Perillo, Mr. Ken Smith, Dr. Sherwood Wilson

- 1. Motion for Closed Meeting
- **2. Briefing by Legal Counsel:** The Committee received a briefing by Legal Counsel on probable litigation.
- 3. Motion to Reconvene in Open Session

Open Session:

Board Members Present: Mr. William Fairchild - Chair, Ms. Deborah Petrine – Rector, Mr. Michael Quillen, Mr. Steve Sturgis

VPI&SU Staff: Ms. Vickie Chiocca, Chief Kevin Foust, Dr. Lance Franklin, Mr. Mark Gess, Mr. Larry Hincker, Mr. Rick Hinson, Ms. Angela Kates, Dr. Chris Kiwus, Ms. Leigh LaClair, Ms. Heidi McCoy, Mr. Jason Soileau, Ms. Kayla Smith, Dr. Tom Tillar, Dr. Lisa Wilkes, Dr. Sherwood Wilson

- **1. Opening Remarks and Approval of Minutes of the June 1, 2015 Meeting:** The minutes of the June 1, 2015 meeting were approved.
- 2. Overview of Administrative Services Division: Sherwood G. Wilson, Vice President for Administration, and his reporting staff presented an overview of the Administrative Services division to the Committee. The areas covered included Safety and Security, Police, Emergency Management, Environmental Health and Safety and Business Services. Typical items for Board review and action from each

- area were emphasized. Due to time constraints, the Facilities overview will be presented at the November 2015 meeting.
- 3. Presentation on Drillfield Paths: The Committee received a presentation on the Drillfield Master Plan. The plans include testing the installation of several Drillfield path paving materials and collection of public feedback regarding the installed material options. The comment periods will be in two week durations in the fall, winter, and spring of 2015/2016. A research initiative will be undertaken to invent, test, and evaluate all-weather and ADA compliant solutions to path materials in an effort to enhance the green-space aesthetic and multi-use purpose of this iconic area.
- 4. Update on Construction Costs for the Virginia Agricultural Research and Extension Center (ARECs): The Committee received an update on construction costs for the Virginia Agricultural Research and Extension Centers. A multidisciplinary team has begun a review of ways to lessen overhead and construction costs for AREC building projects. A more detailed report will be provided at the November meeting. Mr. Sturgis reiterated the importance of maximizing resources and planning for much needed construction and renovation of AREC buildings.
- * 5. Resolution for A & N Electric Cooperative Underground Utility Easement: The Committee recommended full board approval of a resolution authorizing the Vice President for Administration to execute an underground electric utility easement or easements to A & N Electric Cooperative. The Virginia Tech Eastern Shore Agriculture Research and Extension Center ("AREC") has requested the university grant underground easements to A & N Electric Cooperative to replace existing Virginia Tech overhead electric lines with A & N Electric Cooperative underground electric lines to the existing AREC buildings, and install a new underground primary A & N Electric Cooperative electric line.
- * 6. Resolution to Grant an Easement to Rappahannock Electric Cooperative: The Committee recommended full board approval of a resolution authorizing the Vice President for Administration to execute an easement to Rappahannock Electric Cooperative. The Town of Front Royal has requested the university grant an underground electric utility easement fifteen feet (15') in width and approximately three hundred thirty feet (330') in length across university property near 4H Center Drive on the Virginia Tech Northern Virginia 4-H Educational Center property in Warren County, Virginia, to provide for the installation of an electrical power line to connect to the Town owned water tank located on the Virginia Tech Northern Virginia 4-H Educational Center property.
 - 7. Design Review for the Improve Kentland Facilities Project: The Committee approved the design review graphics for three new agricultural buildings which will support research and animal instruction programs within the Dairy and Animal Sciences programs. These buildings address programmatic space needs

associated with the Dairy Science Research and Instructional Program. The new buildings include a 10,916 gross square foot (GSF), two-story Metabolic Research Laboratory (MRL) at Kentland Farm, a 4,496 GSF Applied Reproduction facility (APR) to be located near the Veterinary Medicine complex and an 8,600 GSF Bovine Extension, Teaching and Research (BETR) facility on Plantation Road.

- 8. 2015 Sustainability Annual Report: In accordance with the university's Climate Action Commitment, the Committee reviewed the FY 2014-2015 Annual Report on Campus Sustainability, which highlighted the activities of units within Facilities to support sustainability initiatives, the status of LEED certifications, and the latest awards and recognitions.
- **9.** Capital Project Status Report: The Committee received a report on the status of all capital projects.

Joint Open Session with Finance and Audit

Board Members Present: Mr. Jim Chapman, Mr. William Fairchild, Mr. Charles T, Hill, Mr. Mike Quillen, Mr. Steve Sturgis, Mr. Dennis Treacy, Mr. Horacio Valeiras

VPI & SU Staff: Mr. Bob Broyden, Ms. D'Elia Chandler, Mr. Al Cooper, Mr. John Cusimano, Mr. Brian Daniels, Dr. John Dooley, Mr. Corey Earles, Dr. Lance Franklin, Mr. Mark Gess, Mr. William Hinson, Mr. Tim Hodge, Ms. Elizabeth Hooper, Ms. Angela Kates, Mr. Chris Kiwus, Ms. Sharon Kurek, Ms. Leigh Laclair, Ms. Nancy Meacham, Dr. Scott Midkiff, Mr. Mark Owczarski, Mr. Charles Phlegar, Dr. Scot Ransbottom, Ms. Savita Sharma, Mr. M. Dwight Shelton, Jr., Dr. Ken Smith, Mr. Jason Soileau, Dr. Sherwood Wilson

* 1. Ratification of the 2016 – 2022 Capital Outlay Plan. At its June 2015 meeting, the Committees approved the university's list of potential projects for inclusion in the 2016-2022 Capital Outlay Plan and authorized the university to develop and submit a final plan to the state in accordance with future guidance from the state and based on the projects in the approved list. The university proceeded accordingly and met the state's June 15, 2015 deadline for submission of the plan. The \$1.1 billion total plan reflects the needs of the university and positions the university with options to respond to various funding abilities of the state in the future. The General Fund projects listed in the Plan may be used by the state to update its capital outlay plan and to make funding decisions in the 2016 budget session. Under the university's Management Agreement for Capital Projects, projects funded entirely with nongeneral funds may be approved by the Board on an as needed basis. The Committees reviewed for ratification the 2016-2022 Capital Outlay Plan as submitted to the state.

The Committees recommended the 2016-2022 Capital Outlay Plan to the full Board for approval.

* 2. Approval of Resolution for Virginia Bioinformatics Institute Data Center Expansion. The Committees reviewed for approval a resolution for the Virginia Bioinformatics Institute Data Center. The Virginia Bioinformatics Institute (VBI) was established in 2000 with the mission to lead the Commonwealth's efforts to become a national and international leader in the field of bioinformatics and to enhance the state's overall efforts in the life sciences. The Institute is a critical research engine for the university with over 83 research projects, a total current research portfolio of \$102 million, and a three-year average of \$17 million of annual research expenditures.

The university's vision to expand research under the Institute is a key strategic initiative for the future. The primary growth areas for VBI require high performance computing capabilities to operate web-based tools with real-time computing capabilities to support interactive applications backed by advanced computing models. The Institute's existing data centers are operating at full capacity. The proposed solution is to convert approximately 3,000 square feet of underutilized laboratory space to a high performance data center. The renovation to support the new data center will require upgrades to the building's power supply (additional two megawatts), cooling service, cooling racks, and computing equipment.

VBI has secured a grant from the Defense Threat Reduction Agency (DTRA) that would pay for additional sponsored research and the computing equipment needed to outfit a high performance computing data center. The research grant will not cover the necessary building and infrastructure upgrades needed for the data center. This request is for a \$5.9 million renovation project to make the necessary building and infrastructure upgrades to establish a new high performance data center within the Institute. As with all self-supporting projects, the university has developed a financing plan to provide assurance regarding the financial feasibility of the overall project.

The Committees recommended the Resolution for Virginia Bioinformatics Institute Data Center Expansion to the full Board for approval.

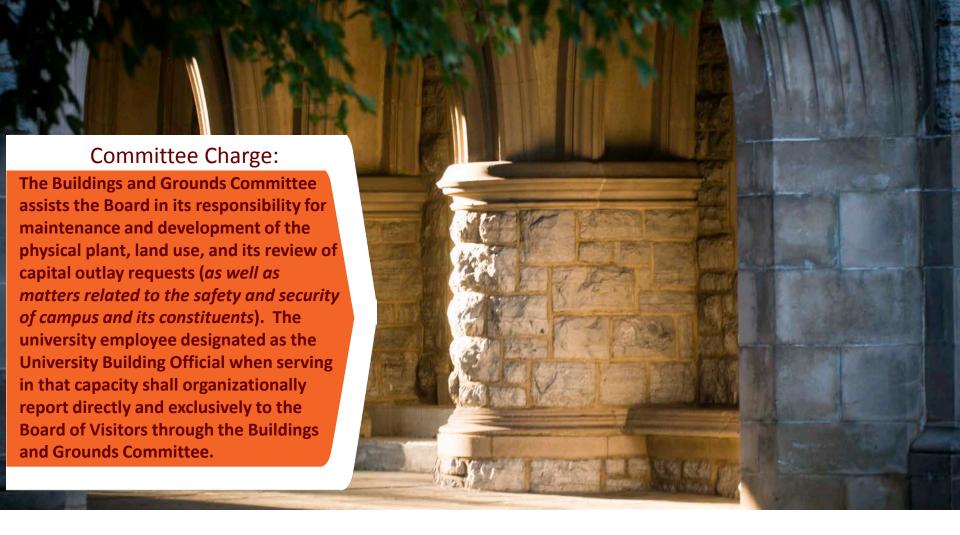
There being no further business, the meeting adjourned at 12:35 p.m. The Committees took a recess from 11:00 a.m. to 12:17 p.m. in order to attend President Sands' scheduled presentation at 11:00 a.m.

*Requires full Board approval.



Overview of the Administrative Services Division





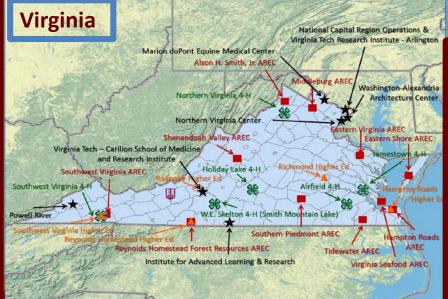
Buildings & Grounds Committee

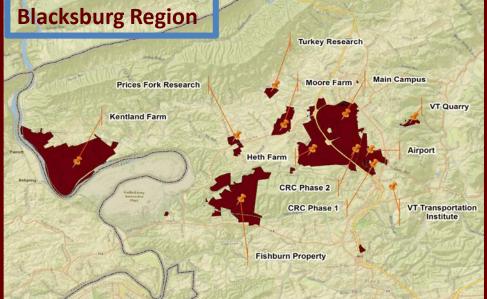


VT - Global Presence



Senegal





Switzerland

University Real Estate

Property:

Main Campus: 2,057 ac Off Campus: 3,274 ac

VT Foundation: 767 ac

Regional Airport: 246 ac

Sanitation Authority: 23 ac

Water Authority: 10 ac

Total acres: 6,377 ac

Leased Space (2014-2015):

~1,888,656 GSF (61,117 GSF directly supports main campus)

>1,800 ac throughout VA

Total value of leases: \$28,095,734

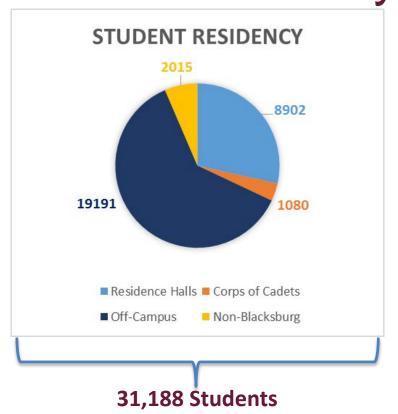
\$15,318,831 centrally funded

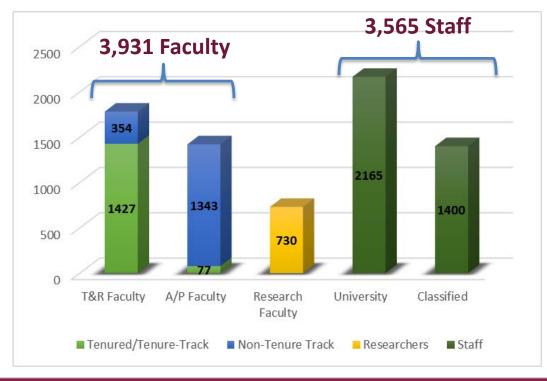
Buildings:

620 University-Owned and 11,162,718 GSF 326 Main Campus and 10,042,035 GSF



Safety and Security





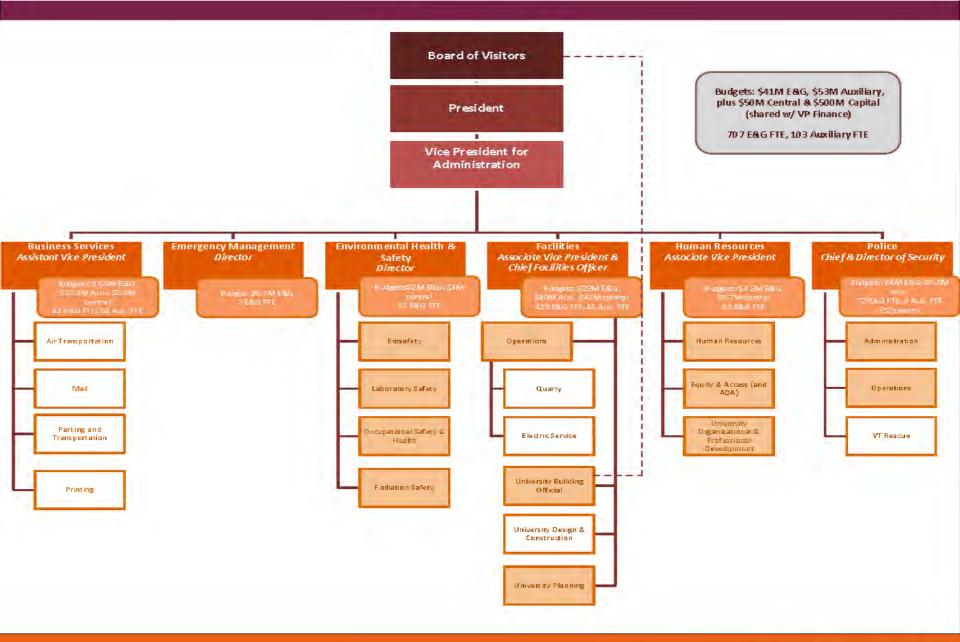
(10,000 On-Campus)

+ ~5,000 Visitors, Contractors, and Others on Campus Daily



=40,000-45,000 Campus "Citizens" to Protect Each Day

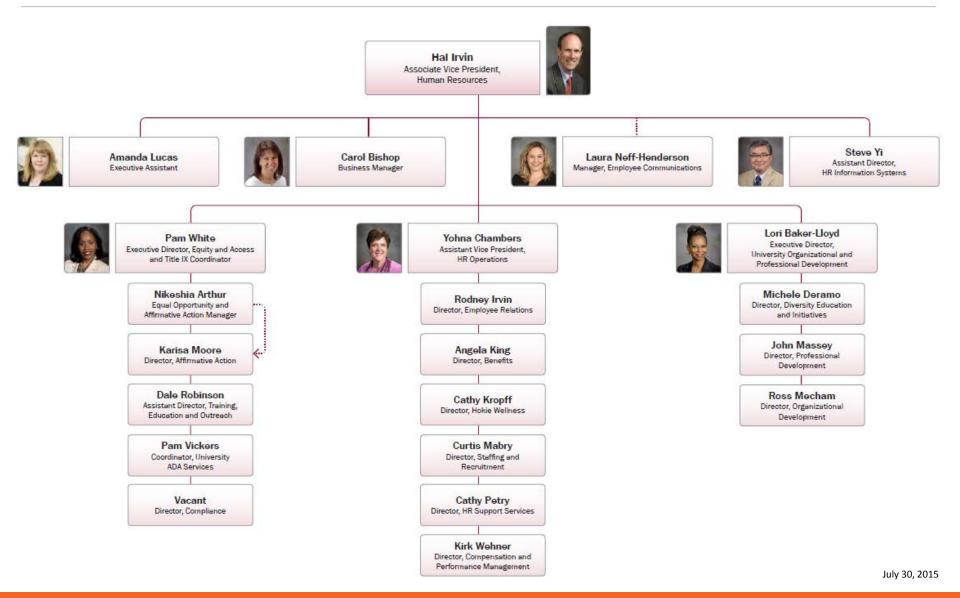








Department of HUMAN RESOURCES | LIVE | LEARN WORK







Safety and Security



Federal and State Directives

Clery Act

- Annual Report
 - Data for all locations
- Timely Warning
- Emergency Notification

Code of Virginia

- Threat Assessment
- Workplace Violence Prevention
- Functional Exercise
- Crisis & Emergency Management Plan (CEMP)

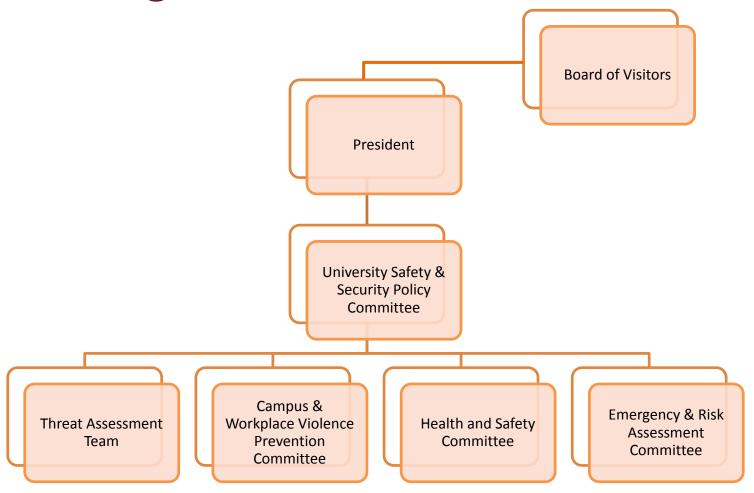


Safety and Security University Policy 5615

- Provides overview of existing university safety and security policies and programs
- Defines authorities, responsibilities, and delegations to carry out safety and security programs and operations.
- Establishes an operational committee for coordination and oversight of university safety and security policies and procedures.



Organizational Structure





University Safety & Security Policy Committee

Chaired by President

Vice President for Administration in President's absence

Membership:

- President
- Senior Vice President and Provost
- Vice President for Administration
- Vice President for Advancement
- Vice President for Finance
- Vice President for Information Technology
- Vice President for Student Affairs
- President's Chief of Staff
- Executive Director, Government Relations
- Associate Director of Athletics
- University Counsel
- Chief of Police
- Director of Emergency Management
- Associate Vice President, University Relations
- Assistant Vice President, News & Information



Immediate Response Team (IRT)

Membership:

- President
- Vice President for Administration
- Senior Vice President and Provost
- Chief of Staff to President
- Vice President for Student Affairs
- Associate Vice President for University Relations
- Chief of Police
- Director of Emergency Management
- University Legal Counsel
- IT Business and Management Systems (BAMS) representative
- Scribe(s) Policy Specialist, Deputy Chief of Staff (back-up)



Administrative Services (VPAS) – Today's Presentations

- Virginia Tech Police Department (VTPD) –Kevin Foust
- Office of Emergency Management (OEM) Mike Mulhare
- Environmental Health and Safety Lance Franklin
- Business Services Lisa Wilkes
- Facilities Chris Kiwus



Police Department





Virginia Tech Police Department Overview

Accreditation

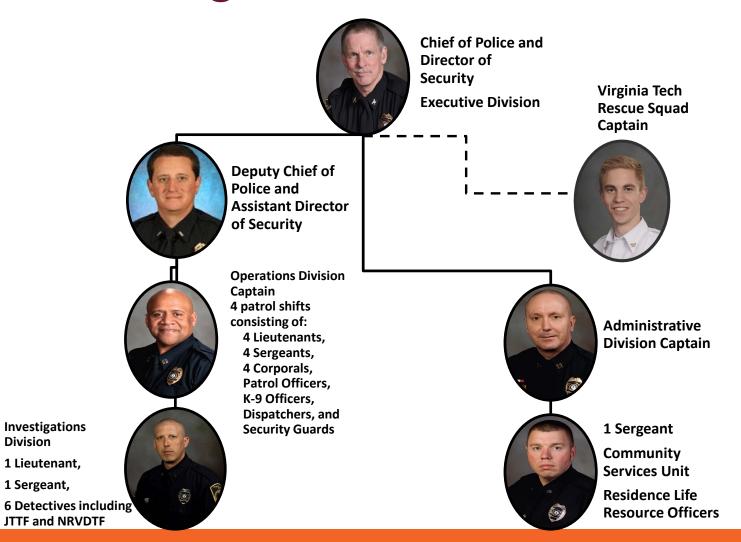
The Virginia Tech Police Department is fully accredited nationally by the Commission on Accreditation for Law Enforcement Agencies (CALEA) and internationally by the International Association of Campus Law Enforcement Administrators (IACLEA).







VTPD Organizational Structure



Division

1 Lieutenant,

1 Sergeant,

Virginia Tech Police Department Overview

- Sworn officers and unarmed security services
- Partnerships and concurrent jurisdiction
 - New River Valley Drug Task Force representation
 - > FBI Joint Terrorism Task Force representation
- ➤ Major Outreach Programs
 - Residence Life Resource Officers
 - Student and Staff/Faculty Citizen's Police Academy
 - > Campus & Workplace Violence Prevention Committee



FY16 budget - \$ 9.4M 77 FT employees

51 sworn Officers

10 Communication Officers

8 Security Officers

8 Professional Support employees



Virginia Tech Police – 2014 Overview

- > Total Incident Based Reports: 938
 - Criminal Offenses: 657 (represents a 45% decline in past 5 years)
 - Property Crimes (burglary, larceny, vandalism) accounted for 40% of all crimes reported in 2014.
 - ➤ Alcohol-related incidents (Public Intoxication, DUI, Underage Possession) accounted for 35% of all crimes reported in 2014.



- Total # of arrests: 391
 - #1 violation resulting in arrest: Public Intoxication (192, or 49%)
 - > 313 males (80%); 78 females (20%)
 - > 346 white (88%); 20 black (5%); 16 Asian (4.5%); 9 American Indian (2.5%)



Virginia Tech Police Major Initiatives

Security cameras

Goal: 90% major pedestrian walkways

Interoperability & Regional 911 Dispatch Center

- > Agencies:
 - Virginia Tech Police Department
 - Blacksburg Police Department
 - > Christiansburg Police Department
 - Montgomery County Sheriff's Office
 - Fire and Rescue Commission

Rape Aggression Defense (RAD Program)



Threat Assessment Team

Report and Consult:

The Threat Assessment Team regularly reviews and manages concerns such as:

- Communicated threats,
- Stalking or obsessive pursuit / contact,
- Domestic / interpersonal violence,
- Harassment,
- Bullying / intimidation,
- Unusual or inappropriate correspondence or communication,
- Unusual or disruptive behavior,
- Concerns for the safety & well-being of others, or
- Any other potentially threatening or disruptive behavior or situation

"This may be nothing, but . . ."



Threat Assessment Team Membership

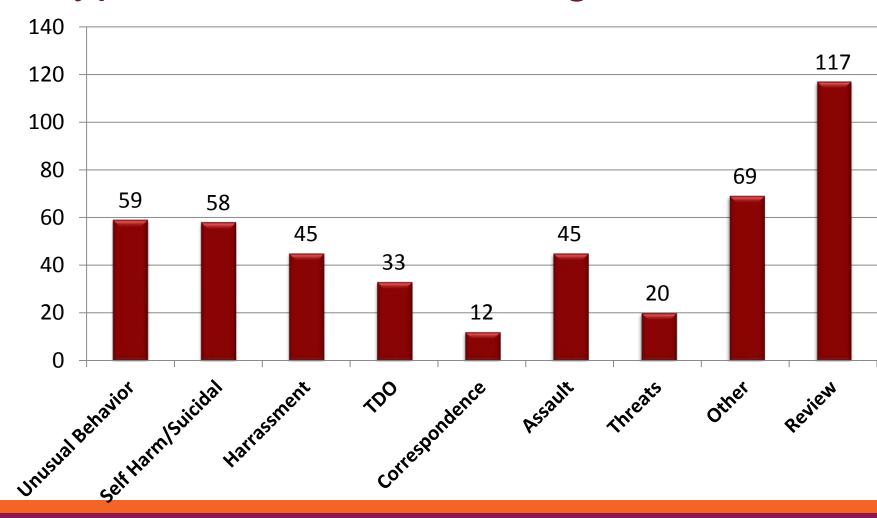
Chair: Investigations Lieutenant	Tony Haga	
Dean of Students	Tom Brown	
Vice Provost: Enrollment & Degree Management	Wanda Dean	
Director of Employee Relations	Rodney Irvin	
Director of Cook Counseling Service	Chris Flynn	
University Legal Counsel	Kay Heidbreder	
Associate Vice President for Students Affairs	Frank Shushok	
Vice Provost: Undergraduate Academic Affairs	Rachel Holloway	
VTPD TAT Coordinator	Chassidy Tuell	
University Title IX Coordinator	Pam White	



Threat Assessment Team Case Information

	2013	2014
Total cases reviewed	406	524
Carry-over cases	58	93
New cases 2013	350	431
Staffed by TAT	80	103
Triaged to other office	326	421

New Case Information Type of Behavior Leading to Referral





Board Review and Action

Туре	BOV Charge	Committee(s)
Clery Report	Annual security and fire safety report required by the Higher Education Opportunity Act and the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act	Buildings and Grounds





Emergency Management



VT-OEM Overview

Creating a culture of preparedness

Mission is to build, sustain, and improve:

- » University resiliency.
- » Departmental readiness.
- » Individual preparedness.

Cycle of Emergency Management

- Mitigation: Changing the physical environment or campus behaviors
- » Preparedness: Planning for the things you cannot change or control
- » Response: Managing the incident
- » Recovery: Returning to normal

FY16 budget - \$ 0.6M

6 FT employees

2 PT employees

2 Student employees



VT-OEM Overview

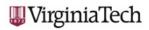
Accreditation

Virginia Tech was the first IHE to receive accreditation.



- » Assessment of Emergency Management program required support and participation of stakeholders from across the university.
- » Required to comply with 64 standards addressing program management, emergency planning, continuity of operations planning at the university and departmental levels, and exercises.

Crisis and Emergency Management Plan (CEMP)



<u>C</u>RISIS AND <u>E</u>MERGENCY <u>M</u>ANAGEMENT <u>P</u>LAN

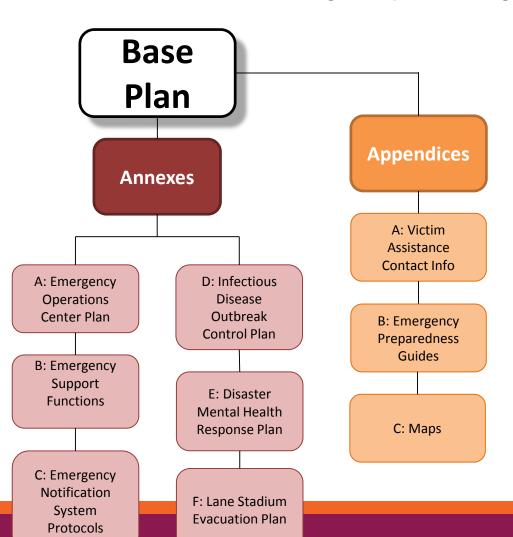
January 2012

Virginia Polytechnic Institute and State University Office of Emergency Management 248 Burruss Hall, Mail Code 0195 Blacksburg, Virginia 24061 (540) 231-2438(Office) (540) 231-1401 (Fax) www.emergency.vt.edu

- » Code of Virginia 23-9.2:9 "The board of visitors or other governing body of each public institution of higher education shall develop, adopt, and keep current a written crisis and emergency management plan."
- » All-hazards, flexible, scalable plan.
- » Developed in collaboration with university, local and regional partners.
- » Base plans and support annexes.



Crisis and Emergency Management Plan (CEMP)



- » Compliant with the National IncidentManagement System.
- » Integrates EmergencySupport Functions (ESFs).
- Contains specialized annexes.





Exercises, Drills and Trainings

- » Worked with
 - » Incident Management Team and Safety and Security Policy Committee functional exercise required by the Code of Virginia.
 - » Satellite facilities and the Division of Student Affairs on Continuity of Operations Plan (COOP).
 - » Facilities Services on emergency and accountability procedures.
 - » VTPD on Directives Manual and emergency procedures.
 - » Environmental Health and Safety on biosafety procedures with lab personnel.
- Provided Incident Command System and C-CERT training for the campus community, engaging a wide variety of faculty, staff, and students.



Future plans

Converting 2nd floor of Public Safety Building to fully functional Emergency Operations Center

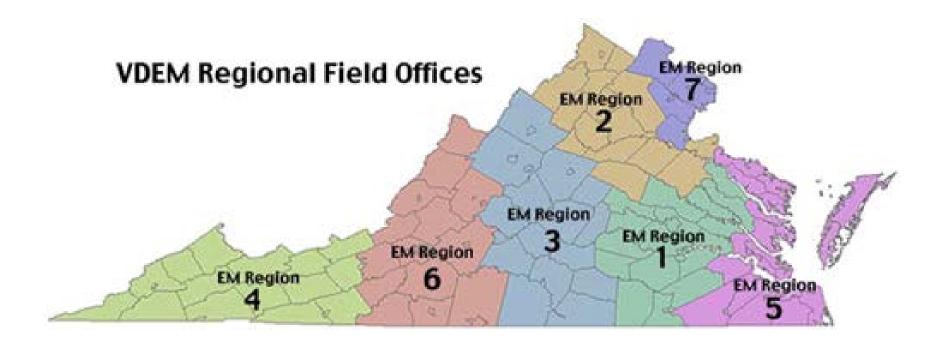






Outreach

» Build a regional Incident Management team for Southwest Virginia







Departmental Readiness

Continuity of Operations Planning (COOPs):

» Ensure continued performance of essential business functions.

Emergency Action Planning (EAPs):

» Addresses immediate life safety issues during an emergency.

Building Emergency Coordinator (BEC):

» Coordinates the development of a unified emergency plan for all departments that occupy a specific building.



Individual Preparedness

BE **HOKIE** READY

- » Campus-wide engagement campaign promoting preparedness at Virginia Tech
- » Formed VT-OEM Student Advisory Board for peer-topeer awareness campaign
- » Social media and event outreach campaign
 - #BeHokieReady, facebook.com/BeHokieReady,
 @BeHokieReady on Twitter
 - » Emergency whistles, campaign stickers and other preparedness giveaways
- » Library of preparedness resources
 - » Online training modules
 - » Desk Reference
 - » Pocket preparedness guides
 - » Safety, security and preparedness presentation





Individual Preparedness

LiveSafe mobile app



Mobile safety app with **3109 downloads** to date. Students, faculty, staff and visitors can access:

- » EMERGENCY QUICK REFERENCE: Guides for how to act in emergency situations embedded in app and can be accessed without mobile data or internet connection.
- VTPD DISPATCH TIPS: Send tips to dispatch (if it is an emergency, call 911).
- » SAFE WALK: Uses GPS technology to allow friends to watch each other get around safely.
- » BUILDING LOCATIONS: Displays a list of Virginia Tech buildings, their location, and provides directions.



Board Review and Action

Туре	BOV Charge	Committee(s)
Crisis Emergency Management Plan (CEMP)	Code of Virginia § 23-9.2:9. Institutional crisis and emergency management plan; review required;	Buildings and Grounds Full Board
	A. The board of visitors shall develop, adopt, and keep current a written crisis and emergency management plan.	
	B. Every four years, each institution shall conduct a comprehensive review and revision of its crisis and emergency management plan the revised plan shall be adopted formally by the board of visitors	





Environmental Health & Safety





Services

Laboratory Safety
Biological Safety
Radiation Safety
Occupational Health and Safety
Environmental Compliance
Off Site Safety











- Biological Safety
- Laboratory Safety
- Environmental Compliance
- Radiation Safety
- Occupational Health and Safety
- Off Site Safety

FY16 Budget Salary - \$1.86M E&G - \$122,652 Central - \$1.11M 32 FTEs

6 wage workers 2 Consultants

1 Contracted Physician

- ~ 13M sqf Building Space
- ~ 1.4M sqf of Lab Space
- ~ 21000 people trained annually
- 12 ARECs
- Research Institutes
- Northern Virginia Facilities
- CRC
- Danville IALR
- Power plant
- Quarry
- Farms



Distribution of Services

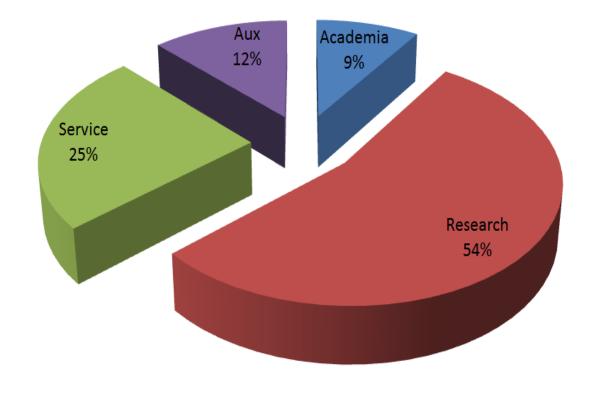
Service

- Facilities
- Business Operations
- Police
- Emergency Management
- Human Resources

Auxiliaries

- Athletics
- Student Affairs
- Information Technology

Academia Research



Biological Safety





- 3 BSL-3s can cause severe to fatal disease in humans; vaccines or treatment are available
- 256 BSL-2s mild disease to humans or are difficult to contract
- 14 ABSL-2 facilities
- 2 Insectarium facilities
- Liaison IACUC, IBC

BSL – biosafety level
ABSL – animal biosafety level



FY16 Budget Salary - \$366,626 E&G - \$660 Central - \$3000 6 FTEs



Laboratory Safety





FY16 Budget
Salary - \$478,676
E&G - \$27,000
Central - \$517,800
8 FTEs
3 PTEs

- 1,600 laboratories
- 128 tons of chemical waste generated annually
- 26 tons electronic waste
- 149 tons regulated medical waste



Occupational Safety and Health





FY16 Budget
Salary - \$560,661
E&G - \$1,000
Central - \$475,000
13 FTEs
3 PTEs
1 Contracted Physician

- > 2,600 medical tests
- > 1,000 vaccinations at an annual cost of ~ \$80,000
- > 200 fire drills/tabletops
- > 300 building inspections/program audits
- > 600 injury reports reviewed
- > 300 research consultations



Radiation Safety





FY16 Budget
Salary - \$91,764
E&G - \$1,850
Central - \$23,800
1 FTE
1 Health Physics Consultant

- Nuclear Medicine –VetMed
- X-Ray Equipment Certification
- 77 laboratories
- 2 tons of radioactive waste generated annually
- 2100 radiation users
- 300 packages of radioisotopes received annually



Environmental Compliance







FY16 Budget
Salary - \$63,350
E&G - \$0
Central - \$65,000
1 FTE
1 Environmental Services Consultant

- Consent Order Management
- Greenhouse Gas Inventory
- Air Permit Compliance
- Petroleum Storage Management
- Landfill Post Closure Care Oversight
- Leachate Discharge System
- Unpermitted Discharge Investigations
- Contaminated Soils Management



Off Site Service (ARECs)

Agricultural Research and Extension Centers



FY16 Budget Salary - \$65,627 E&G - \$0 Central - \$22,000 1 FTE

Operational Programs

 12 Agricultural Research centers, Equine Medical Center, and Occoquan Watershed labs throughout the Commonwealth..

4 Graduate research centers
Occupational health services
Pesticide management

- Hazardous waste oversight
- Occupational health training
- Farm safety
- Fire and life safety oversight



Health and Safety Committee

Chaired by Director of Environmental Health and Safety (EHS)

Chemical Safety & Hazardous **Materials** Management **Committee**

> Hazardous **Materials**

Laboratory Safety

Occupational Health and Safety Committee

Physical Hazards

Fire Hazards

Safety Hazards

Occupational Health

Institutional **Animal Care and Use Committee**

Vertebrate Animals

Institutional **Biosafety** Committee

Infectious agents

Recombinant DNA

Biological origin toxins

Select agents

Blood, blood products, cells, unfixed tissue

Institutional **Review Board**

Human Subjects

Radiation-**Producing** Equipment

Radiation Safety

Committee

Radioactive

Materials

Report to Director of EHS Led by EHS staff

Report to Vice President for Research Led by Research or College staff

Board Review and Action

Туре	BOV Charge	Committee	
Fire/Building Code Regulations	Care, preservation and improvement of university property	Building and Grounds Student Affairs and Athletics	
Occupational Health and Safety Regulations	The protection and safety of students, University Safety and Section faculty, and staff on the property Group		
Research Compliance	The University's educational and research programs effectively meet the evolving needs of Virginia's citizens to the fullest extent possible within the statutory mission of the institution.	Research	
EPA	Care, preservation and improvement of university property	Building and Grounds	





Business Services





Business Services

Air Transportation Services
Printing Services
Mail Services
Parking & Transportation Services
IT for Administrative Services
Management Services



Air Transportation Services

- Leases and operates two mid-sized jets owned by Virginia Tech Foundation and private partners
- Safety is paramount to operations; exceed FAA requirements
- 7 pilots (1 director, 3 command pilots/captains, 2 second in command pilots/first officers, 1 part-time)
- Current initiatives Construction of airport hangar to include administrative offices for department staff; implementation of charter contracts; implementation of new flight operating system



FY16 budget - \$2.8M 7 FT employees 1 PT employee



Printing Services

- Comprised of off-set print production, digital print center, and copier rental program
 - FY11 (\$180K)
 - FY15 \$386K
- Off-set print production and digital print center
 - 3,500 jobs in FY15
 - ACUP Production Award 2014 Winner
- Copier rental program
 - 650 devices
 - 100+ participating departments
- Current initiatives Implementation of oncampus digital print kiosks; finalization of new managed print solutions contract



FY16 budget - \$3.7M 15 FT employees 3 PT employees



Mail Services

- Departmental Mail
 - 1M letters, 134K packages, 1.2M inter-dept envelopes
 - Special items live animal delivery, donations, applications during closures
- Residential Mail
 - 73K average USPS items per month, 660K in 9 months
 - 17K packages per month, 149K in 9 months
 - August 2014 8K packages in 5 days
- Current Initiatives Feasibility study for new residential mail delivery system



FY16 budget - \$1.7M 11 FT employees 11 PT employees Seasonal PT employees



Parking & Transportation

- Alternative Transportation
- Parking Services
- Fleet Services









Parking Services

- Manages parking areas:
 - 14,216 surface lot spaces
 - Perry Street garage 1,350 spaces
 - North End garage 850 spaces
 - 300 special events a year
 - 20,188 permits sold in FY15
- Operates through shared governance
 - Parking and Transportation Committee
 - Parking Appeals Hearing Committee
- Current Initiatives: Implementation of special use parking areas (i.e., remote lot for staff, graduate assistants, Corps of Cadets); replacement/relocation of parking areas; construction of additional garage(s)



FY16 budget - \$6.2M 24 FT employees Seasonal PT employees



Alternative Transportation

- Service Coordination: Bicycle, Pedestrian, Transit, Carpool, Vanpool, Car Share, Ride Share
- Hokie Bike Hub established in FY14; logged
 344 participants; 1,504 participants in FY15
- Blacksburg Transit manage BT contract;
 total ridership over 3.6 million in FY14; over
 95 percent VT faculty, staff, students
- Current Initiatives: Construction of MMTF; completion of RFP for bike share program; completion of feasibility study for summer bike storage program; implementation of additional bike education programs





FY16 budget - \$4M 2 FT employees 1 PT employee



Fleet Services

- Fleet Rental Programs
 - 1,050 entire university fleet vehicle management – 8 million miles annually
 - 126 daily rental vehicles, 108 department rentals, 816 department-owned vehicles
 - 10,000+ yearly reservations
- Campus Shuttle Programs
 - 8 daily round trip shuttles from campus to VTCRI, transporting 12,849 passengers in FY15
 - 141 special event services
- Current Initiatives Implementation of contract for campus shuttles; exploration of alternative vehicles rentals (i.e., golf carts)



FY16 budget - \$3.3M 7 FT employees Seasonal PT employees



Management Services

- IT for Administrative Services
 - Established in 2008
 - 15 FT employees, 1 PT
 - Manages over 108 servers, over 2,500 end-points and users, and 12 enterprise systems
 - Operates computing support center with 24x365 support
 - Over 11,000 service requests per year
- Management Consulting Services for Administrative Services
 - Established in 2015
 - 2 FT employees, 1 graduate assistant
 - Conducts advisory reviews and monitors management action plans accompanying internal audit reports
 - Designs and implements continuous data monitoring tools
 - Serves as management consultant for new initiatives/projects
 - Conducts process analysis reviews and policy compliance reviews



Board Review and Action

Туре	BOV Charge	Committee
Parking Regulations	Care, preservation and improvement of university property	Building and Grounds and Full Board
Transit	Establish fees, tuition, and other charges imposed by the university on students	Finance and Audit and Full Board

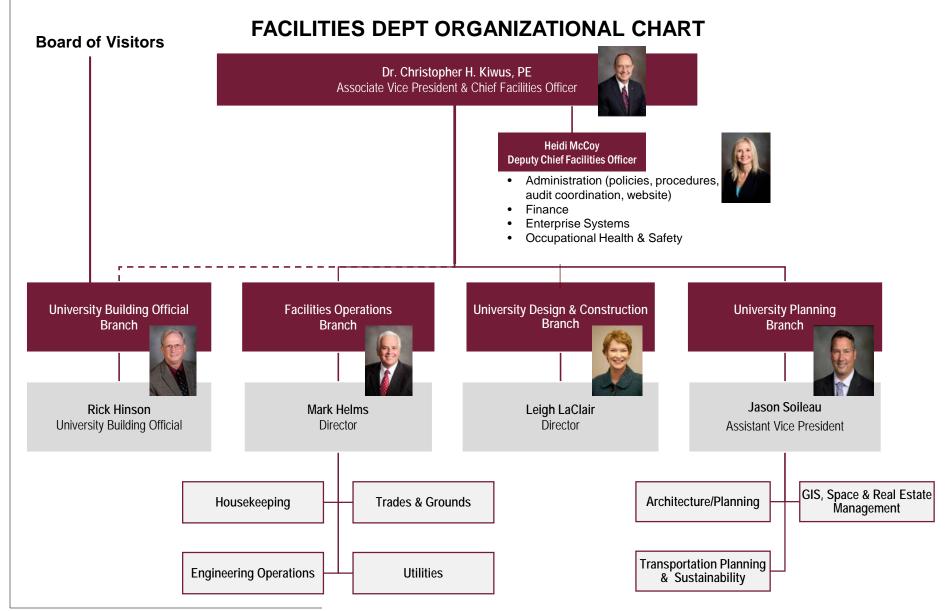




Facilities Department







Deputy Chief Facilities Officer

- The DCFO oversees:
 - Administration
 - Finance
 - Enterprise Systems
 - Occupational Health and Safety
 - (Real Estate is currently under DCFO)
- Current initiatives: Developing and documenting Facilities Dept procedures, redesign of our website, clarifying funding rules



University Building Official (UBO)

- Reviews the construction and renovation of any facility on university owned property for compliance with the Virginia Uniform Statewide Building Code
- Conducted 1,193 plan reviews for permits and 3,446 inspections between April 2014 and March 2015
- Current initiatives: Implementing new permit software, refining procedures for permits and inspections





Facilities Operations

- Maintains buildings, electrical/mechanical systems, and the main campus grounds to provide a reliable, efficient, functional, and beautiful setting for the campus community
- Operations is comprised of four divisions:
 - Utilities
 - Housekeeping
 - Engineering Operations
 - Trades & Grounds (includes Quarry and Renovations)
 - Exceptions: Division of Student Affairs and Athletics, as well as some other areas, perform certain maintenance, repair, renovations and housekeeping
- Current initiatives: Installing a natural gas line to the Power Plant, utilities master plan, energy five year plan, stand up of engineer cell for 'Owner's Rep' function, manage maintenance reserve budget



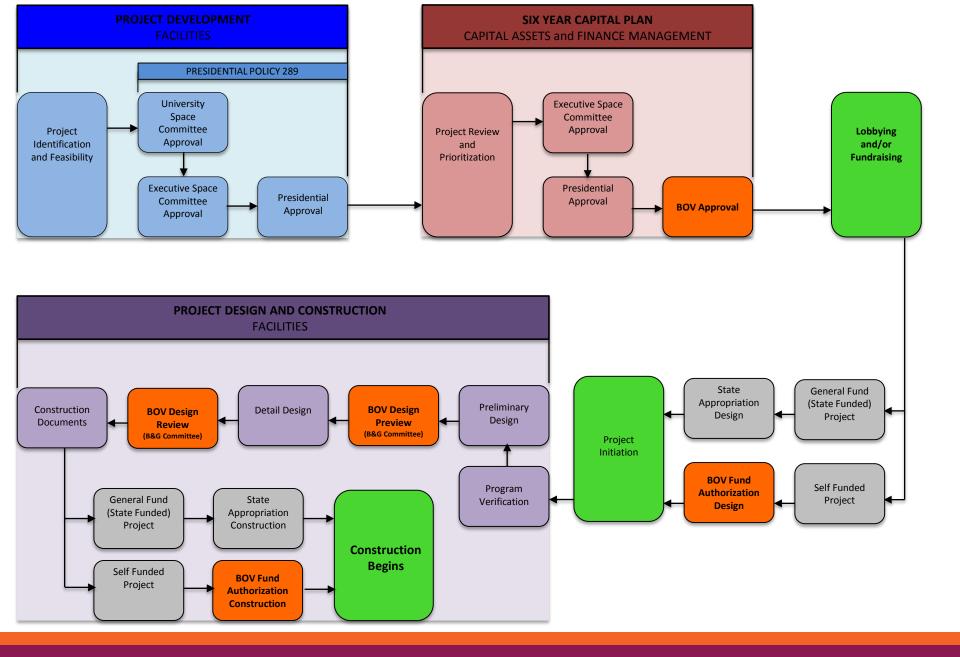


University Design & Construction

- Responsible for the design and construction of all university capital projects (over \$2M or 5K SF)
- Currently six capital projects in design and seven in construction

Design	Construction	
1. Airport Hangar Replacement	1. Upper Quad Residential Facilities	
2. Health Center Improvements	2. Classroom Building	
3. Improve Kentland Facilities	3. Fire Alarm Systems & Access	
4. Multi-Modal Transit Facility	4. McBryde 100 Classroom Renovation	
5. Renovate/Renew Academic Buildings	5. Residential Hall Connectivity	
Women's Softball & Track and Field Facility Improvements	Unified Communications and Network Renewal Project	
	7. Agriculture Programs Relocation	







Board Review and Action

The Board oversees and evaluates the construction, renovation, and maintenance of the buildings, structures, and facilities of the university

Туре	Frequency	Committee
University Building Official Annual Report	Annually in June	Buildings and Grounds
Project Updates (ex: Drillfield Drive Improvements)	As needed to keep the Board informed of high-profile projects	Buildings and Grounds
Capital Project Status Report	Every meeting	Buildings and Grounds
Design Preview/Reviews	As needed in order to receive Board approval	Buildings and Grounds
Demolitions	As needed in order to receive Board approval	Buildings and Grounds and Full Board
Easements	As needed in order to receive Board approval	Buildings and Grounds and Full Board



Board Review and Action, cont.

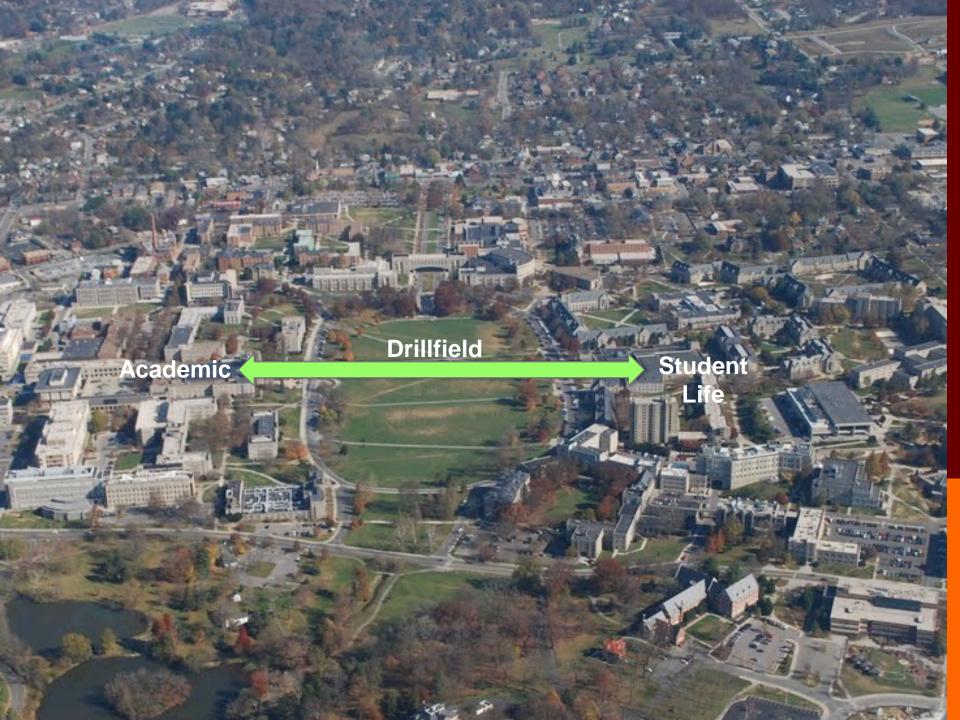
The Board oversees and evaluates the construction, renovation, and maintenance of the buildings, structures, and facilities of the university

Туре	Frequency	Committee	
Acquisitions and Conveyances of Property	As needed in order to receive Board approval	Buildings and Grounds and Full Board	
Sustainability Annual Report	Annually in August	Buildings and Grounds	
Funding – Design	As needed in order to receive Board approval	Joint Buildings and Grounds with Finance and Audit and Full Board	
Funding – Construction	As needed in order to receive Board approval	Joint Buildings and Grounds with Finance and Audit and Full Board	
Six Year Capital Plan	Every two years	Joint Buildings and Grounds with Finance and Audit and Full Board	
Master Plan	As needed	Joint Buildings and Grounds and Full Board	



Drillfield Paths Update

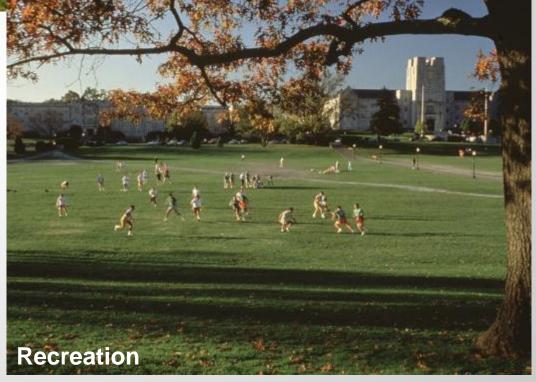
Board of Visitors Meeting: August 31, 2015











User Groups







Transition Space

Background



Photographic History - 1971 Bird's Eye Image

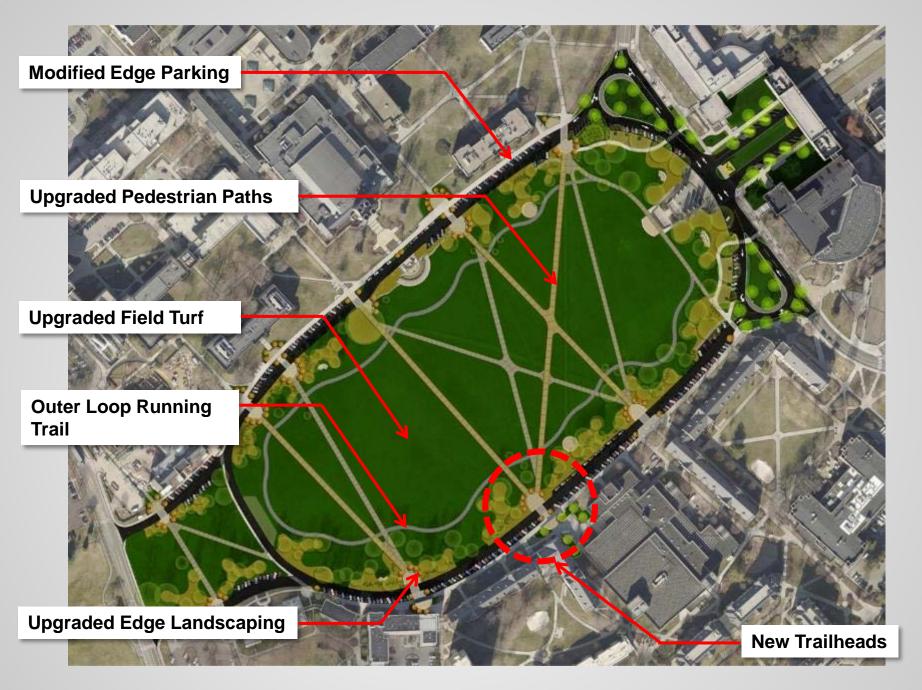
Committee Charge

Explore (invent if necessary), test, and evaluate all weather and ADA compliant solutions to paths on the Drillfield in an effort to enhance the green-space aesthetic and multi-use purpose of this iconic area and provide a recommendation.

Interdisciplinary group includes representatives from:

- Student Representation
 - Undergraduate
 - Graduate
 - Civil Engineering / Sustainable Land Development Club
- College of Engineering
- Corps of Cadets
- College of Agriculture and Life Sciences Crop and Soil Environment Sciences
- College of Architecture and Urban Studies Landscape Architecture
- College of Agriculture and Life Sciences Horticulture
- Human Resources University Americans with Disabilities Act (ADA) Services
- Recreational Sports
- Facilities Grounds Maintenance
- Office of University Planning (Chair)

Drillfield Enhancement Plan - Overview



Drillfield Master Plan



Presentation on National Mall Turf Restoration



Presentation on UVA Lawn Restoration







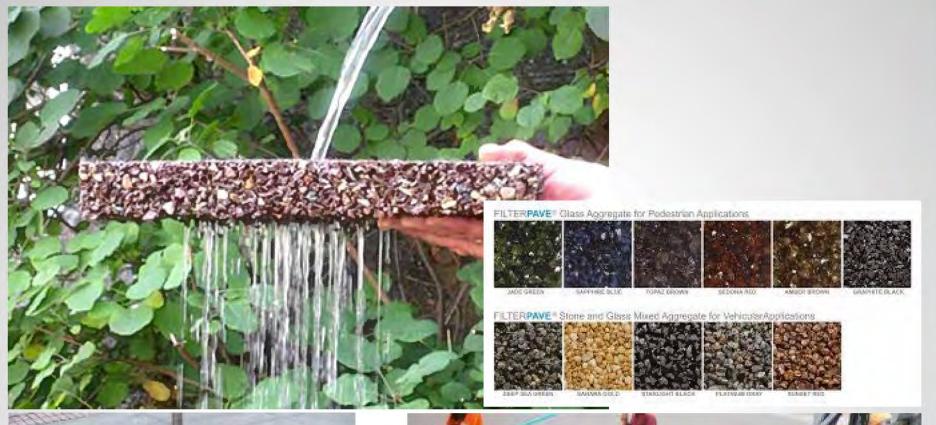
Student Presentations on Sustainable Materials and Paths







Presentation on Lighting





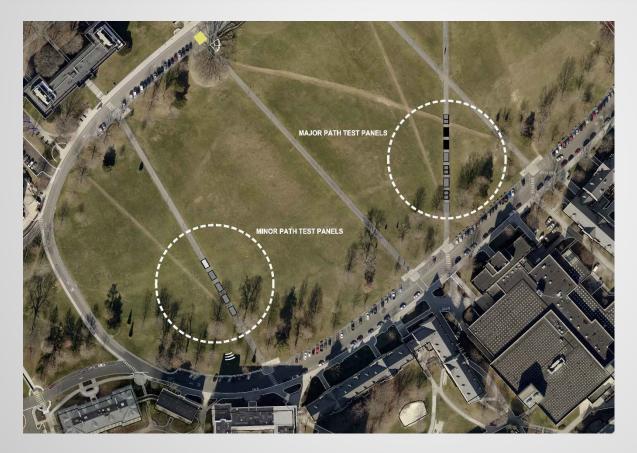


Presentation on Porous Pave Material

The Path Forward

Academic Research to "Invent the Future"

Due Diligence And Research	Test Case Installation	Publicized Field Testing		Final Analysis and Recommendation
Spring 2015	Summer 2015	Fall 2015	Spring 2016	Summer 2016



Path Material Testing:

- Major (8) and Minor (5)
 Testing Areas
- Test period over 2016 AY, encompassing all seasons and full volume of foot traffic

Path Material Testing

Public Engagement





Public Engagement to include:

- Public Polling for Two week durations – during Fall, Winter, Spring and Summer
- Use of social media (Twitter) and a dedicated special website
- Posted signs and graphics to encourage voting and get the news out

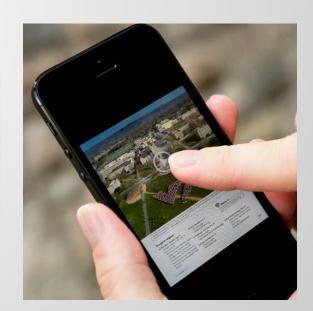


MATERIAL #1: Grass Paver
INFO/ COMMENTS: drillfiledpaths.vt.edu

TWITTER POLL: Scan QR code or Tweet #

DO YOU LIKE THIS PATHWAY MATERIAL?





Path Material Testing



Request for Proposals to be issued through Office of Sponsored Programs to include a stipend of \$30,000 for the research, development, testing, and evaluation of materials

RFP Anticipated Schedule:

per 201	5
	per 201

Preliminary Review and Shortlist
 October 2015

Final Presentations (if necessary)
 November 2015

Final Selection December 2015

Research Initiation
 January 2016

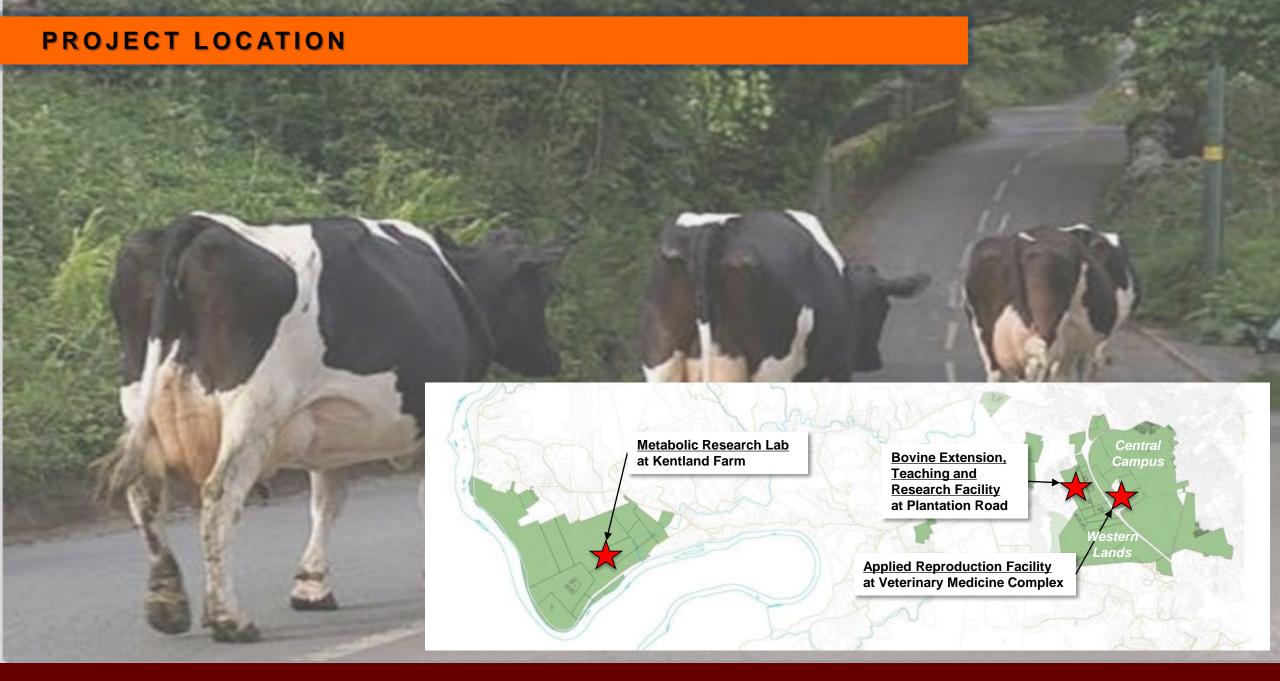
Minimum components included:

- Investigation, research, and product identification;
- Field testing to include construction, public comment, and evaluation along with life cycle and market cost analysis;
- Final report and presentation to university administration and the Drillfield Paths Committee.

Request for Proposals for New Path Material



Design Review for: Improve Kentland Facilities



STATUS UPDATE: PROJECT IN DESIGN

- Preliminary design to be complete by September 2015
- Estimated construction cost \$6.0M = \$207/sf
- Total project budget = \$7.6M
- Design and construction funding has been approved

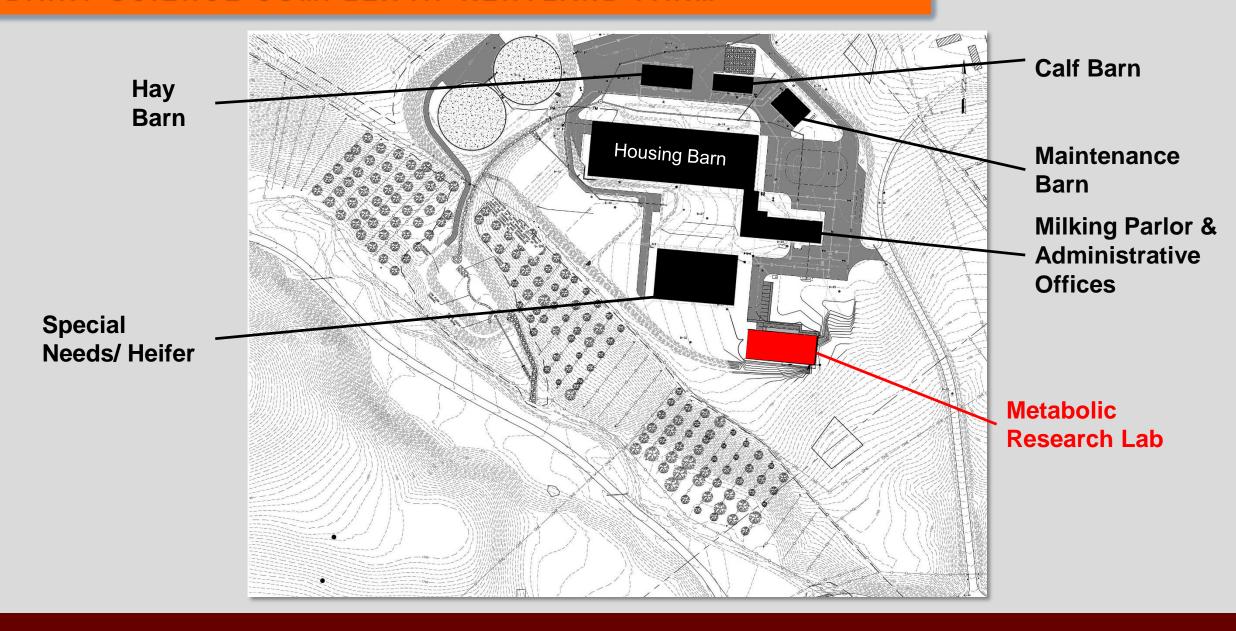
DAIRY SCIENCE COMPLEX AT KENTLAND FARM

Kentland Property Boundary

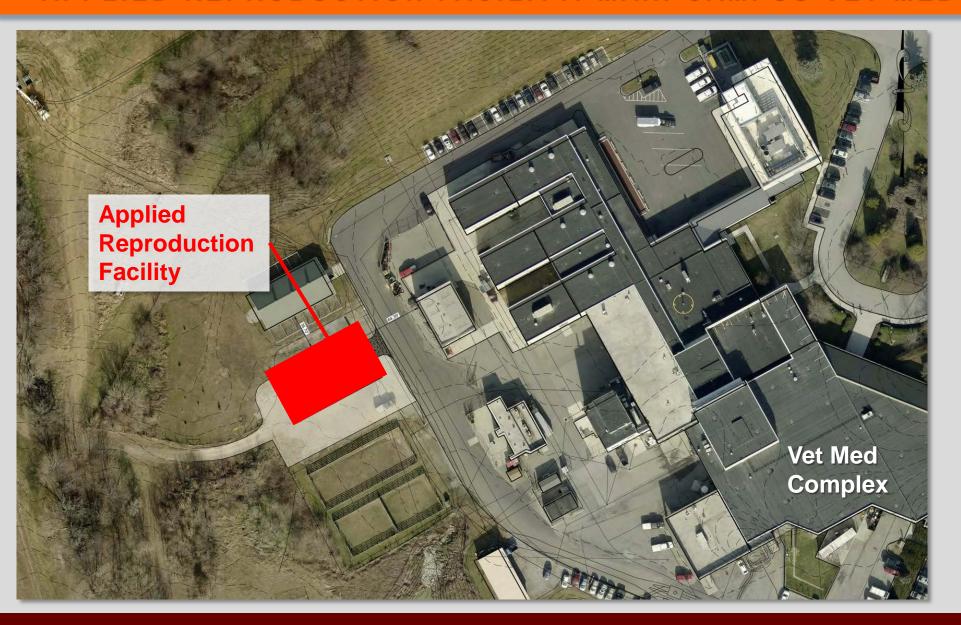


Relocation Site

DAIRY SCIENCE COMPLEX AT KENTLAND FARM



APPLIED REPRODUCTION FACILITY: MAIN CAMPUS VET MED





BOVINE EXTENSION, TEACHING AND RESEARCH FACILITY (BETR)





RECOMMENDATION:

That the Design Review graphics be approved and authorization be provided to continue with the project design consistent with the drawings shown.

DESIGN REVIEW FOR THE IMPROVE KENTLAND FACILITIES PROJECT

Preliminary design is underway for three new agricultural buildings which will support research and animal instruction programs within the Dairy and Animal Sciences programs. These buildings address programmatic space needs associated with the Dairy Science Research and Instructional Program. The new buildings include a 10,916 gross square foot (GSF), two-story Metabolic Research Laboratory (MRL) to be located adjacent to the new Dairy Science complex at Kentland Farm and will provide laboratories for large animal research. The second building will be a 4,496 GSF Applied Reproduction facility (APR) to be located to the west side of the Veterinary Medicine complex and will provide student instruction and experience with bovine palpation. Finally, an 8,600 GSF Bovine Extension, Teaching and Research (BETR) facility will be constructed and located on Plantation Road to provide classrooms and animal holding space supporting animal science instruction and research. To achieve project cost reductions through value engineering, the MRL building has been reduced in square footage by 3,467 GSF and the BETR building has been reduced by 3,124 GSF since the June 2014 Preview document package was prepared. The APR facility remains unchanged.

Capital Project Information Summary – Improve Kentland Facilities

BUILDINGS AND GROUNDS COMMITTEE

August 31, 2015

Title of Project:

Improve Kentland Facilities

Location:

The three new facilities comprising this project are planned at three different locations as follows:

- Metabolic Research Laboratory within the new Dairy Science complex at Kentland Farm
- Applied Reproduction facility located to the west of the College of Veterinary Medicine complex
- Bovine Extension, Teaching and Research facility (BETR) located on Plantation Road adjacent to the Livestock Judging Pavilion

Current Project Status and Schedule:

The project is in the preliminary design phase. Subsequent design phases are expected to continue into the fall of 2015.

Project Description:

Planning and design are underway for three new agricultural buildings which will support animal research and animal instruction programs within the Dairy and Animal Sciences programs. These buildings address programmatic space needs associated with the Dairy Science Research and Instructional Program. The new buildings include:

- A 10,916 gross square foot (GSF), two-story Metabolic Research Laboratory (MRL) which will provide holding areas and laboratories for large animal research;
- A 4,496 GSF Applied Reproduction facility (APR) which will provide student instruction and experience in bovine palpation; and,
- An 8,600 GSF Bovine Extension, Teaching and Research facility (BETR) which will provide classrooms and animal holding space, supporting handson animal science instruction and research.

Brief Program Description:

The Dairy Science research operations include the bovine extension and research function, the applied reproduction program, and the metabolism research program. The facilities allow the study of basic and applied science and technology, the interfacing of science and production agriculture, and the dissemination of new information on animal nutrition, physiology, lactation, genetics, reproduction, infectious disease, immunology, and the business of dairy enterprise

management. Studies also include nutritional and management approaches to minimize environmental impacts of dairy farm operations and the study of mechanisms involved in control of disease and the improvement of milk quality.

Contextual Issues and Design Intent:

The two story Metabolic Research Laboratory floor plan is organized into three bays under a gable roof. Skylight panels are provided at the roof over the mechanical area for energy conservation. The vertically ribbed metal roof panels continue partially down the sides (eaves) of the exterior walls to create an economical wall enclosure. Painted concrete masonry unit (CMU) walls, smooth-finish concrete site walls, vertically ribbed metal panels, and translucent glazing wall panels comprise the exterior materials.

The Applied Reproduction facility is an open structure designed in traditional farm vernacular, with painted CMU at the enclosed spaces, horizontal cementitous slat walls at animal holding areas to permit cross ventilation, and sloping standing seam metal roofing with clerestory openings providing ventilation and diffused natural lighting.

The Bovine Extension, Teaching and Research (BETR) facility utilizes continuous curtain wall glazing at the entry lobby and classrooms for transparency along Plantation Road. The animal handling spaces are primarily open with translucent glazing panels at the upper wall areas to provide shading and wind deflection. The flat roof area will be surfaced with membrane roofing and the gable roof will utilize vertically ribbed metal roof panels that continue partially down the sides (eaves) of the exterior walls to create an economical wall enclosure.

Architect/Engineer:

Spectrum Design

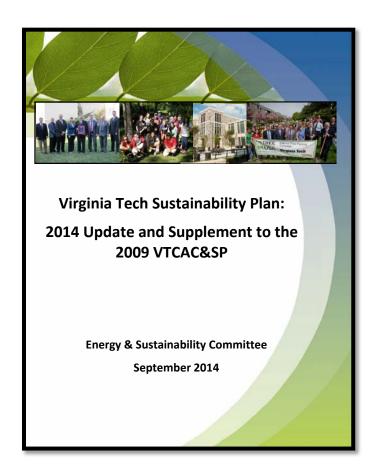
Construction Manager:

To be determined



Virginia Tech 2015 SUSTAINABILITY Annual Report

VTCAC: OVERVIEW



Sustainability Annual Report per

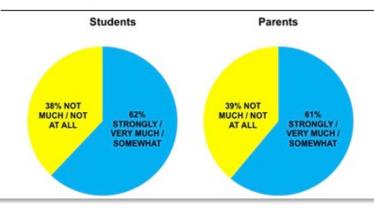
Presidential Policy Memorandum No. 262 Rev 1 "Update to the VT Climate Action Commitment"

Key Points:

- Statement of Virginia Tech's Climate Action Commitment specific to the university
- 2. Action plan to achieve the goals of commitment
- Action plan to enhance sustainability programs & culture
- 2014 Update and Supplement embraces AASHE STARS Program as the management tool to track our progress

We Care

If you (your child) had a way to compare colleges based on their commitment to environmental issues (from academic offerings to practices concerning energy use, recycling, etc.), how much would this contribute to your (your child's) decision to apply to or attend a school?



"Colleges train the next generation of leaders who will ultimately be responsible for putting green ideas into practice. By infusing sustainability principles into every aspect of higher education, there is a new priority for a whole generation of leaders, educated and trained, to make a greener world now."

Princeton Review's Guide to 332 Green Colleges, 2014

5-year ENERGY ACTION PLAN

5-Year Energy Action Plan (FY2016-FY2021) Purpose:

- Achieve significant reductions in utility cost
- Comply with state mandates for energy use reduction
- Support VT Climate Action Commitment and Sustainability plan

Plan Concentrates on 52 "Energy Hog" buildings and Seven Program Areas:

- Electric Demand
- Energy & Water Audits
- Retrofit Projects
- Re-Commissioning
- Metering Infrastructure
- Analytics Software Tools
- Plant Upgrades



AASHE'S STARS AWARD

Virginia Tech's STARS Rating

- Past STARS Silver Ratings was 63.30 points
- A STARS Gold Rating requires achieving 65 points
- VT successfully achieved a GOLD Rating in fall 2014

Bragging Rights

- VT in the top 10% of over 300 reporting universities
- The second highest score by any university in the Commonwealth of Virginia
- Score is the 4th highest among universities in the Atlantic Coast Conference



Virginia Tech score: 71.02

2015 LEED CERTIFICATIONS

21 LEED registered projects (1,440,254 GSF):

- Ten projects are LEED Certified (5 Gold, 4 Silver, and 1 Certified)
- Three projects are completed and awaiting certification
- Four projects are under construction
- Four projects are in design

Human and Agricultural Biosciences Building I

(93,860 GSF)

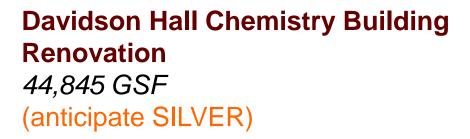
Certified GOLD 4/17/2015





2015 COMPLETED PROJECTS AWAITING LEED CERTIFICATION

Goodwin Hall 154,935 GSF (SILVER possibly GOLD)



Oak Lane, Phase IV 20,508 GSF (anticipate SILVER)







2015 SUSTAINABILITY EVENTS













Participated in over 15 events

SUSTAINABILITY PROGRAMS







3 new Zero Waste Events



GREEN RFP PROGRAM

The purpose is to direct financial resources to **Student Driven Sustainability Initiatives** to promote sustainability at Virginia Tech.

- Since AY 2011 32 student proposals totaling more than \$320,000
- For AY 2015 5 student proposals totaling more than \$111,000
- Proposals are selected that support the Climate Action Commitment



Water Bottle Refill Station in Litton-Reaves Hall

SUSTAINABILITY AWARDS IN 2014-2015



National Association of College and
University Food Services
Sustainability Award for Outreach & Education
Category

THE PRINCETON REVIEW'S Guide to 353 GREENCOLLEGES



Princeton Review Fifth Consecutive Year



Governor's Environmental Excellence Award for Advancing Sustainability through Student Engagement

Governor's Environmental Excellence Award

Bragging Rights

- Virginia Tech received a 2015 Governor's Environmental Excellence "Bronze" Award for "Advancing Sustainability through Student Engagement
- Eight awards were presented at 2015 Environment Virginia Symposium and Virginia Tech was the only college or university recipient
- This is the 6th time in the past 8 years that Virginia Tech has received this award for our Sustainability Program

QUESTIONS OR COMMENTS?



President Sands presenting award to winning Residence Hall for Energy Competition

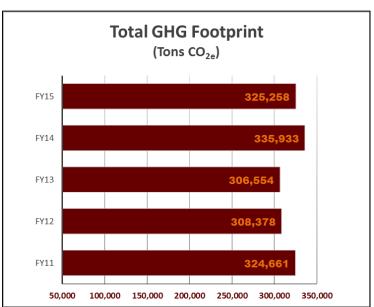
The following report provides a summary status on implementation of the Virginia Tech Climate Action Commitment and Sustainability Plan (VTCAC&SP) for 2014-2015. The VTCAC&SP was developed in 2009 and updated in 2014.

KEY SUSTAINABILITY METRICS

1. <u>Greenhouse Gas (GHG) Emissions</u>: "Virginia Tech will establish a target for reduction of **campus GHG emissions** to 80% below 1990 emission level (**38,000 tons**) by 2050..." (VTCAC&SP)

Comments

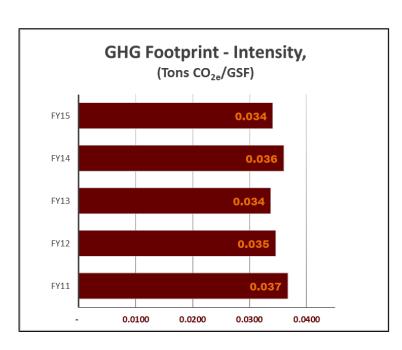
- 3.2% decrease in FY2015 driven by:
- 10% reduction in consumption of coal in FY2015 over FY2014. The difference is compensated by increased natural gas consumption and a slightly milder winter.
- Reduction in APCO's coal usage resulted in less emissions per kilowatt-hour of purchased electricity.



Comments

- The university added approximately 207,000 square feet (SF) in construction during FY2015 (Indoor Athletic Training Facility, Pearson Hall, Marching Virginians)
- GHG emission percentages by fuel source:

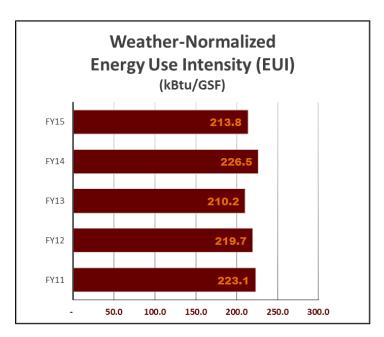
0	Purchased Electricity	53%
0	Coal	32%
0	Commute	5%
0	Natural Gas (Steam Plant)	4%
0	Natural Gas (Buildings)	2%
0	All Others	4%



2. <u>Energy Use Intensity (kBtu's/GSF)</u>: "Virginia Tech will improve electricity and heating efficiency of campus facilities and their operations by improving the heating and cooling infrastructure and operation, lighting efficiency, equipment efficiency, and metering and controls of its existing buildings." (VTCAC&SP)

Comments

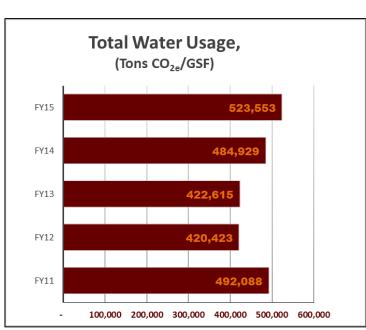
- 5.6% decrease over FY2014
 primarily driven by a 7.6% reduction in combined fuel consumption in FY2015 over FY2014.
- The university developed a 5-year Energy Action Plan to enhance ongoing efforts to operate more efficiently. Central Administration has funded Phase 1 of the plan in the amount of \$2.5 million.



3. <u>Water Consumption</u>: "Virginia Tech will engage students, faculty, and staff through education and involvement to develop and implement innovative strategies for efficient and sustainable use of energy, **water**, and materials in all university-owned facilities." (VTCAC&SP)

Comments

- 7.4% increase over FY2014 driven by the installation of new Water Authority master meters which have provided a better assessment of water usage.
- A water conservation program will be developed in the Campus Master Plan's review of utilities.



4. <u>Alternative Transportation Use</u>: "Virginia Tech will improve transportation energy efficiency on campus through parking, fleet, and alternative transportation policies and practices." (VTCAC&SP)

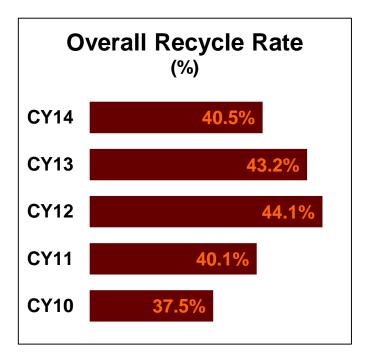
Comments

- The university was again recognized with the "Best of" universities winner in the "Race to Excellence" award by The Best Workplaces for Commuters, a national recognition program.
- The university was among 100 colleges and universities designated a bicycle friendly university by League of American Bicyclists.
- The last commuter survey (FY2014) showed 55% of campus used alternative modes of transportation. The percentage of faculty and staff was 36%, commuter and graduate students was 62%, and resident students was 88%. The alternative transportation survey is conducted every other year.

5. **Recycling**: "...Virginia Tech will minimize waste and achieve a 50% recycle rate by 2020" (VTCAC&SP)

Comments:

- 40.5% Overall Recycle Rate for 2014 represents the third highest rate. The slight decrease is from a reduction in recycled metal due to a reduction in the number of on-going major renovations.
- 558 tons of Composted Food Waste from Dining Services and The Inn represents 27% of 2,037 tons of recyclable materials.
- The university fully supports the Montgomery Regional Solid Waste Authority transition to Single Stream Recycling effective July 2015. Recyclable materials such as paper, plastic, metal cans, and small cardboard will be collected in a single container.
- The university will be increasing tailgate recycling stations during 2015 football season.



CAPITAL PROJECT STATUS REPORT

Board of Visitors Meeting: August 31, 2015

Christopher H. Kiwus, PE, PhD
Associate Vice President and Chief Facilities Officer

PROJECTS IN DESIGN

- Airport Hangar Replacement
- Health Center Improvements
- Improve Kentland Facilities
- Multi-Modal Transit Facility
- Renovate Academic Buildings
- Women's Softball and Track and Field Facility Improvements



IMPROVE KENTLAND FACILITIES

- Currently under preliminary design
- General Assembly included budget amendment for funding
- As a result of less funding received (\$7.6 million vs \$9 million), the College of Agriculture and Life Sciences initiated value engineering to bring down the cost of the project

MULTI-MODAL TRANSIT FACILITY

- Project administered by the Town of Blacksburg and funded by Federal Transportation Administration grants and a university match
- Will improve transit services, and the safety of those services, provided to Virginia Tech students, faculty, staff, and the community
- Schematic design in progress

RENOVATE ACADEMIC BUILDINGS

- Will renovate three existing campus buildings: Sandy Hall,
 Liberal Arts Building, and the original portion of Davidson Hall
- Preliminary design is complete
- Construction documents have been initiated



Sandy Hall



Davidson Hall

Liberal Arts Building

WOMEN'S SOFTBALL AND TRACK AND FIELD FACILITY IMPROVEMENTS

- Includes the design of a new Women's Softball facility with improvements to the track and field facilities at the Rector Field House
- Contract negotiation with design firm in progress



PROJECTS UNDER CONSTRUCTION

- Agriculture Program Relocation
- Classroom Building
- Fire Alarm Systems and Access
- McBryde 100 Classroom Renovation
- Residential Hall Connectivity
- Unified Communications and Network Renewal Project
- Upper Quad Residence Halls



AGRICULTURE PROGRAMS RELOCATION

- Includes the relocation of the university's Dairy Program from Southgate Drive to Kentland Farm to accommodate the expansion of the Airport runway and relocation of Tech Center Drive
- Most buildings are substantially complete



FIRE ALARM SYSTEMS

Complete

Wallace Annex

In construction

- Architecture Annex
- Food Science & Technology Building
- Lane Hall
- Litton Reaves Hall
- War Memorial Hall
- Whittemore Hall

Preliminary design submitted to DGS for cost review

- Patton Hall
- Randolph Hall

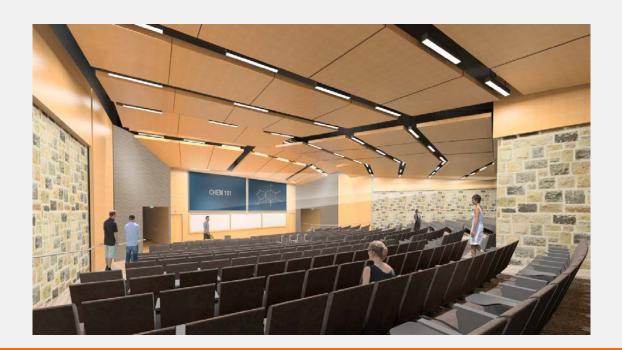
Preliminary design progressing

Norris Hall



MCBRYDE HALL 100 CLASSROOM RENOVATION

- Includes a complete renovation of the McBryde Hall 100 Auditorium, which is heavily used for large enrollment classroom lectures
- Construction in progress
- Substantial completion by the start of fall semester classes



RESIDENTIAL HALL CONNECTIVITY

- Installs wireless connectivity throughout all campus residence halls
- Project is designed and installed by university Communications Network Services (CNS)
- On schedule to have the majority of residence halls connected when students return to campus for fall semester
- 92% of residence halls (excluding the Donaldson Brown Graduate Life Center and the Oak Lane Community) will have access to wireless connectivity at the start of the semester
- Thomas Hall and Monteith Hall will be the only residence halls without wireless connectivity at the start of fall semester

UNIFIED COMMUNICATIONS AND NETWORK RENEWAL PROJECT

- Replaces outdated equipment and upgrades campus communications systems, providing infrastructure and equipment enhancements over a five year period
- The migration of services from the ROLM telephone system to the new unified communications (UC) system is substantially complete (99%)

UPPER QUAD RESIDENCE HALLS

- Includes the demolition and reconstruction of Brodie and Rasche residence halls to serve the Corps of Cadets
- Construction of Pearson (formerly Rasche) is behind schedule
- Brodie Hall has been demolished
- Targeted completion date for Pearson is Fall 2015 with Brodie in Summer 2016



BUILDING AND GROUNDS COMMITTEE August 31, 2015 **Capital Project Status Report Estimated Total Contract Completion** Non-General **Project Name Project Description Project Teams Project Status Project Cost Funds Date** DESIGN Landmark Builders The proposed hangar project will design, construct, install necessary Winston-Salem, NC \$2,520,000 \$2,520,000 **TBD** The Design Build Contract has been awarded and design is in progress. Airport Hangar Replacement utilities, and equip a 14,000 gross square foot (GSF) building with the capacity to house two planes and will provide interior office spaces for pilots. Lindsey Architecture, Greensboro, NC Lord, Aeck & Sargent, Inc. This project provides for a 3,500 square feet (SF), one story addition and Preliminary design progressing with design modifications to accommodate Atlanta, GA 1,700 SF renovation of existing space to support the clinical needs of the the needs of new Student Affairs leadership. Schematics were presented to \$3,268,000 \$2,868,000 **TBD** Health Center Improvements Schiffert Health Center. The project includes improvements for the Campus the State Art and Architecture Review Board at the July meeting and their TBD Alcohol Abuse Prevention Center and infirmary space. comments will be incorporated. Spectrum Design, PC The project includes new construction of three buildings totaling approximately Roanoke, VA 28,900 gross square feet (GSF) including a metabolism research laboratory, \$7,600,000 \$0 **TBD** Preliminary design initiated with value engineering changes incorporated. Improve Kentland Facilities an applied reproduction facility, and an arena with animal demonstration and holding spaces for the College of Agriculture and Life Sciences. TBD Wendel Associates Schematic design in progress. Project proposed to be designed for LEED Project administered by the Town of Blacksburg funded by Federal Multi-Modal Transit Facility **TBD** TBD TBD Platinum providing an on campus sustainability demonstration showcase. Transportation Administration grants and a university match. TBD Glavè & Holmes This project will renovate three existing campus buildings - Sandy Hall, Liberal Arts Building, and the original portion of Davidson Hall. Collectively, these Associates Preliminary design is complete and Construction Documents initiated. renovations will increase the functionality of three underutilized building assets, Richmond, VA Department of Historic Resources approval of Davidson Hall design **TBD** Renovate/Renew Academic Buildings address several deferred maintenance issues, and reduce critical space \$30,563,000 \$0 received. Environmental Impact report submitted to Department of deficiencies. A small addition is planned for Sandy and Liberal Arts Buildings Environmental Quality. **Grunley Construction** to provide for an elevator, ADA accommodations, and circulation space Rockville, MD improvements. Cannon Design Phase I of improvements to Rector Field House. This is a planning project to Women's Softball and Track and Field Facility Arlington, VA design a new Women's Softball facility with improvements to the track and \$500,000 \$500,000 TBD Contract negotiation with design firm in progress. Improvements (Planning) field facilities in Rector. TBD CONSTRUCTION Thompson & Litton This project for relocation of the Dairy Program from Southgate Drive to Most buildings are substantially complete. The College of Agriculture and Life Radford, VA Kentland Farm is required to accommodate expansion of the Airport runway Sciences is coordinating with the Virginia Department of Health and the Food Agriculture Programs Relocation and relocation of Tech Center Drive. Planning, design, construction, and \$14,000,000 \$14,000,000 January 30, 2014 **English Construction** and Drug Administration for permitting for the dairy operation. Herd financing by the Virginia Tech Foundation, Inc. and a capital lease, back to Company, Inc. scheduled for relocation in August. Virginia Tech, was authorized by the BOV at the May 7, 2013 meeting. Lynchburg, VA EYP Architecture & This project provides for the design and construction of a 73,275 square foot Engineering (SF) academic building which will contain state-of-the-art instructional space to Washington D.C. accommodate the unmet demand for multi-discipline general assignment Construction in progress. Site work and utilities are underway. Structural steel Classroom Building classrooms and labs. The new academic building will include approximately 15 \$42,650,000 \$0 July 8, 2016 erection is in progress. Perry Street has been temporarily closed and is flexible classrooms and 4 laboratory rooms of various sizes and configurations scheduled to reopen in August 2015. Project is on schedule. W.M. Jordan Company to accommodate multiple teaching methods. The building will provide Newport News, VA approximately 1,600 student stations with wireless capability throughout.

Project Name	Project Description	Estimated Total Project Cost	Non-General Funds	Project Teams	Contract Completion Date	Project Status
Fire Alarm Systems and Access	This project provides for critical life safety improvements in several educational and general facilities on campus. Fire alarm systems will be installed or expanded in as many campus buildings as funding allows, including Randolph Hall, War Memorial Hall, Food Science and Technology, Norris Hall, Lane Hall, Patton Hall, Litton Reaves Hall, Whittemore Hall, Architecture Annex, and Newman Library.	\$4,900,000	\$0	Multiple A/E Firms Multiple Contractors	Multiple Sub-projects December 1, 2016	Release of construction funding is allocated subject to cost approval by the bidding/construction phase: Architecture Annex, Food Science and Technology, Lane Hall, Litton Reaves Hall, War Memorial Hall, and Whittemore Hall in construction. Patton Hall and Randolph in cost review. Norris Hall is in design phase.
McBryde 100 Classroom Renovation	This project provides for a complete renovation of the McBryde 100 auditorium, which is heavily used for large enrollment classroom lectures.	\$2,800,000	\$2,800,000	Westlake, Reed Leskosky Washington D.C. Martin Brothers, Inc Roanoke, VA		Construction in progress for substantial completion by the start of the fall semester.
Residential Hall Connectivity	Project to install wireless connectivity throughout all campus residence halls.	\$4,000,000	\$4,000,000	CNS	Fall 2015	The residential network upgrade (RNU) project has progressed on an aggressive schedule since the project approval and kickoff on March 30, 2015. Network Infrastructure & Services (NI&S) and Housing & Residence Life (HRL) have worked together to develop an implementation plan for the 36 residence hall buildings in scope for the project. The wired access network upgrade is complete. Student residents have access to connections with support for speeds up to 1Gbps. A "wall-to-wall" wireless access service will be available in all residence halls for the start of the fall semester with the exception of Thomas Hall and Monteith Hall, which were out-of-scope for the project. As of July 2015, installation of the wireless access points is 95% complete. NI&S engineers are continuing to review and optimize the configuration of the new network. NI&S engineers and technicians will also continue to work closely with HRL to assess the coverage and performance of the new wireless service. Initial testing has been very positive. Until all students return for the fall semester, full performance and coverage cannot be adequately measured. NI&S engineers will interact with HRL and the university's technology vendor partners to ensure rapid response to any reported issues.
Unified Communications and Network Renewal Project	This project replaces outdated equipment and upgrades campus communications systems, providing infrastructure and equipment enhancements over a five year period. The project scope includes upgrades	\$16,508,000	\$16,508,000	Multiple A/E Firms		The migration of services from the legacy ROLM telephone system to the new unified communications (UC) system is complete. The ROLM system will be fully decommissioned and removed in September-October 2015. A team of data center users, with representation from central IT, colleges, and institutes, has completed the technical requirements gathering step for the data center network upgrade. Inside cabling work was suspended in April to
	to the Internet Protocol (IP) Network, the cable plant, and equipment rooms in buildings throughout campus.			Various Contractors		focus resources and efforts on the residential network upgrade (RNU) project. UC Cabling activities will resume in September 2015, with a target completion date of December 2016. Wallace Hall and Pamplin Hall will be the next buildings to receive upgraded cabling.
Upper Quad Residential Facilities	This project provides for the demolition and reconstruction of Brodie and Rasche residence halls to serve the Corps of Cadets. The new residence halls totaling approximately 210,000 GSF will provide over 1,000 beds in double and triple rooms sharing hall community bathrooms. These new residence halls will be constructed at the approximate location of the original Rasche Hall	#04.000.000		Clark Nexsen Charlotte, NC	Pearson - July 31, 2015	Construction of Pearson Hall (Rasche Hall replacement) is in progress but behind schedule. Contract completion date is August 8, 2015. The contractor is targeting September 4, 2015 for substantial completion of the building
opper Quad Residential Facilities	and Brodie Hall. Both buildings will provide double and triple occupancy rooms that meet the residence and in-room storage space needs of the cadets. Both new residence halls will provide dedicated meeting, community, and group spaces, specifically designed to meet Corps program and organization needs. Thomas Hall and Monteith Hall will also be demolished as part of this project.	\$91,000,000	\$91,000,000	Barton Malow Company - Charlottesville, VA	Brodie - July 31, 2016	interior with the exterior completion to follow later this fall. Brodie Hall has been demolished. Rammed aggregate foundations are being installed.

Project Name	Project Description	Estimated Total Project Cost	Non-General Funds	Project Teams	Contract Completion Date	Project Status		
CLOSE-OUT								
Chiller Plant I	This project expanded the campus chilled water infrastructure and provided for the design and construction of a new 16,655 GSF chiller plant in the southwest side of campus to serve the new Human and Agricultural Biosciences Building (HABBI) and other buildings in the life sciences precinct.	\$20 007 720	\$8,039,092	Burns and Roe Service Corporation – Virginia Beach, VA The Whiting-Turner Contracting Co. –	June 15, 2013	Project closed June 2015 and CO-14 submitted to the State. This is the final report on this project.		
Goodwin Hall (Signature Engineering Building)	This project provided for a new 154,935 GSF state-of-the-art, technology enhanced flagship building for the College of Engineering including research, classroom, and office space.	\$95,218,249	\$47,609,125	Baltimore, MD Zimmer Gunsul Frasca Architects LLP Washington, DC Gilbane Building Company – Richmond,	April 15, 2014	Construction is complete and building is fully occupied. Lab equipment procurement and installation continues.		
Human and Agricultural Biosciences Building I (HABBI)	This project provided for a new 93,860 GSF advanced agricultural research laboratory facility.	\$53,759,344	\$0	Lord, Aeck & Sargent, Inc. – Atlanta, GA	December 9, 2013	Construction is complete. New brewing equipment damaged in shipment reordered. Lab modifications in progress. Targeted completion in 2015.		
				Skanska USA Building, Inc Durham, NC				
Indoor Athletic Training Cocility	This project provided a new indoor multi-sport practice facility large enough to accommodate football punting and kicking practice. The new facility is located on the site of the existing football practice fields.	\$21,300,000	\$21,300,000	HKS Richmond, VA	lung 1, 2015	Construction substantially complete and building is being used. Graphics		
Indoor Athletic Training Facility				W.M. Jordan Company Richmond, VA	June 1, 2015	installed. Punch list in progress.		
Marching Virginians Practice Facility	This project included new construction of an equipment storage building, a covered open-air practice pavilion, and a soccer-size artificial turf field. The approximately 4,300 GSF building provides the Marching Virginians with restrooms, lockers, instrument storage space, and a drum line room for percussion instruments. The 4,000 SF pavilion attached to the building provides a protected area for the Marching Virginians to practice during inclement weather. A lighted, soccer-size artificial turf field will be shared with Recreational Sports.	\$4,750,000	\$4,750,000	Thompson + Litton Radford, VA	March 31, 2015	Construction is substantially complete. Punch list in progress.		
				Snyder & Associates Blacksburg				
Moss Arts Center	This project provided for design and construction of a new 92,000 GSF Performing Arts Center and the renovation of Shultz Hall for a 1,300-seat performance auditorium, a visual arts gallery, creative technologies program, and support spaces.	\$100,087,000	\$72,700,448	Snohetta AS – New York, NY with STV Group, Inc. – Douglasville, PA	September 6, 2013	Project closed June 2015 and CO-14 submitted to the State. This is the final		
(Center for the Arts)		φ ιου,υσ <i>ι</i> ,υου	\$72,700,446	Holder Construction Company – Atlanta, GA	September 6, 2013	report on this project.		
D	This project provided for the demolition of the deteriorated and outdated center and rear section additions to Davidson Hall. The original building remains and a new replacement addition of 44,845 GSF was constructed to provide modern laboratory and research space.	\$32,003,099	\$0	Einhorn Yafee Prescott - Washington, DC		Building occupied and classes in session. Retainage held pending resolution		
Renovate Davidson Hall				Barton Malow Company- Charlottesville, VA	- January 16, 2014	of roofing subcontractor dispute with the Construction Manager. Close-out upon resolution of issue.		

Project Name	Project Description	Estimated Total Project Cost	Non-General Funds	Project Teams	Contract Completion Date	Project Status	
Courth Degree ation Field Curfoes Demissions and	This project replaced existing natural turf fields, located on approximately 15 acres adjacent to the airport runway, with synthetic turf covering the size of six soccer fields for multi-sport use. The new fields will enhance the student experience and allow for expansion of the Recreational Sports intramural and club sports programs.	\$4,600,000	\$4,600,000	Gay and Neal Blacksburg	- June 27, 2015	Construction is substantially complete. Dunch list in progress	
· ·				Field Turf USA, Inc.	Julie 27, 2015	Construction is substantially complete. Punch list in progress.	

RESOLUTION FOR A & N ELECTRIC COOPERATIVE UNDERGROUND ELECTRIC UTILITY EASEMENT

The Virginia Tech Eastern Shore Agriculture Research and Extension Center ("AREC") has requested the university grant underground easements to A & N Electric Cooperative to replace existing Virginia Tech overhead electric lines with A & N Electric Cooperative underground electric lines to the existing AREC buildings, and install a new underground primary A & N Electric Cooperative electric line.

RESOLUTION FOR A & N ELECTRIC COOPERATIVE UNDERGROUND ELECTRIC UTILITY EASEMENT

WHEREAS, the Virginia Polytechnic Institute and State University ("Virginia Tech") is the fee simple title owner of approximately 227 acres in Accomack County, Virginia; and

WHEREAS, the program utilizing the 227 acres is the Virginia Tech Eastern Shore Agriculture Research and Extension Center ("AREC") located at 33446 Research Drive, Painter, Virginia; and

WHEREAS, the Eastern Shore AREC requests the Board of Visitors grant authority for Virginia Tech to grant unto A & N Electric Cooperative an easement or easements, as necessary, to replace existing Virginia Tech overhead electric utility lines to the Eastern Shore AREC buildings with A & N Electric Cooperative underground electric utility lines, and to install a new A & N Electric Cooperative primary underground electric line in as convenient, code compliant, and cost-effective manner as possible, which approximate easement areas are shown on the attached drawing ("Exhibit A"); and

WHEREAS, the underground easements would improve electric service by reducing inclement weather related interruptions, increase safety, and improve the Eastern Shore AREC's viewshed; and

WHEREAS, Virginia Tech desires to grant said underground easement or easements, as necessary, to A & N Electric Cooperative;

NOW, THEREFORE, BE IT RESOLVED that the Vice President for Administration be authorized to execute an underground electric utility easement or easements, as necessary, to A & N Electric Cooperative in accordance with applicable university policy and procedures as permitted by the Higher Education Restructuring Act and Management Agreement with the Commonwealth of Virginia, and in accordance with the applicable statutes of the <u>Code of Virginia</u> (1950), as amended.

RECOMMENDATION:

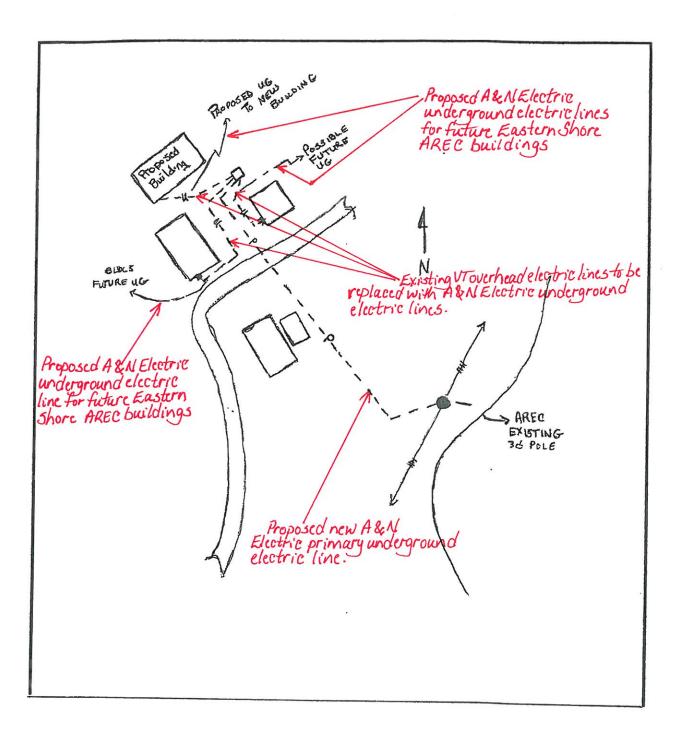
That the above resolution authorizing the Vice President for Administration to execute easements to A & N Electric Cooperative be approved.

August 31, 2015



Imagery @2015 Google, Map data @2015 Google 50

EXHIBIT A



RESOLUTION TO GRANT AN EASEMENT TO RAPPAHANNOCK ELECTRIC COOPERATIVE

The Town of Front Royal has requested the university grant an underground electric utility easement fifteen feet (15') in width and approximately three hundred thirty feet (330') in length across university property near 4H Center Drive on the Virginia Tech Northern Virginia 4-H Educational Center property in Warren County, Virginia, to provide for the installation of an electrical power line to connect to the Town-owned water tank located on the Virginia Tech Northern Virginia 4-H Educational Center property.

RESOLUTION TO GRANT AN EASEMENT TO RAPPAHANNOCK ELECTRIC COOPERATIVE

WHEREAS, Virginia Tech acquired approximately 229 acres in Warren County, Virginia (the "Property") from the United States of America, acting by and through the Secretary of Health, Education, and Welfare, by Deed dated February 13, 1976, and recorded in the Circuit Court Clerk's Office of Warren County, Virginia in Deed Book 231, Page 501; and

WHEREAS, Virginia Tech initially granted use of the 229 acres to the Northern Virginia 4-H Educational Center, Inc. under Memorandums of Understanding that were superseded and replaced by a Deed of Lease dated April 26, 2007 by and between Virginia Tech and the Northern Virginia 4-H Educational Center, Inc., which Lease remains in effect; and

WHEREAS, the Town of Front Royal is required by federal regulations to provide potable water to the Property, including, but not limited to, a sufficient supply for firefighting purposes; and

WHEREAS, the Town of Front Royal has located an above-grade 100,000 gallon water storage tank on and to exclusively serve the Property; and

WHEREAS, the Town of Front Royal desires to add electric mixers which require reliable electric service to the water storage tank located on the Property in order to improve water quality and assist in meeting federal water quality regulations; and

WHEREAS, the Town of Front Royal and the Rappahannock Electric Cooperative have requested an easement to extend existing electric service from approximately the Center Offices to the water storage tank as shown on the attached drawing entitled "TOWN OF FRONT ROYAL REQUESTED ELECTRIC UTILITY EASEMENT" (Exhibit A); and

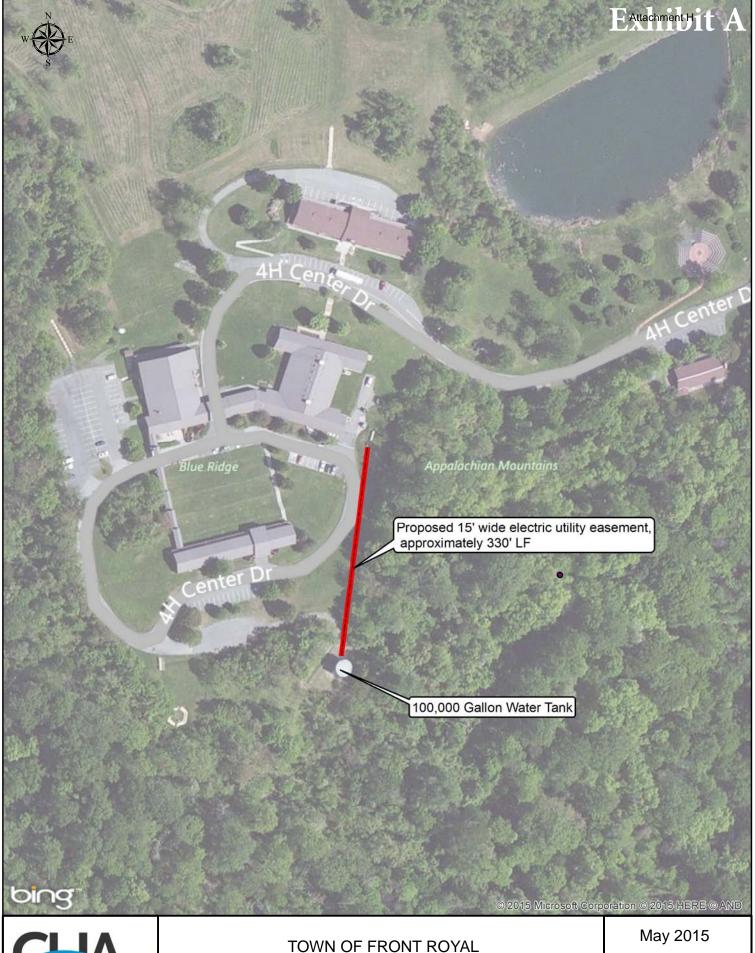
WHEREAS, Virginia Polytechnic Institute and State University desires to grant said underground electric utility easement to Rappahannock Electric Cooperative;

NOW, THEREFORE, BE IT RESOLVED that the Vice President for Administration be authorized to execute an easement to Rappahannock Electric Cooperative in accordance with applicable procedures for said easement as permitted by the Higher Education Restructuring Act and Management Agreement with the Commonwealth of Virginia, and in accordance with all applicable Virginia Tech policy and procedures and the <u>Code of Virginia</u> (1950), as amended.

RECOMMENDATION:

That the above resolution authorizing the Vice President for Administration to execute the easement to Rappahannock Electric Cooperative be approved.

August 31, 2015





TOWN OF FRONT ROYAL REQUESTED ELECTRIC UTILITY EASEMENT

0 50 100 Feet

Committee Minutes

FINANCE AND AUDIT COMMITTEE

Virginia Tech Research Center Arlington, VA

August 31, 2015

Audit Closed Session

Board Members Present: Mr. Jim Chapman, Mr. Charles T. Hill, Ms. Deborah Petrine, Mr. Dennis Treacy, Mr. Horacio Valeiras

VPI & SU Staff: Ms. Kay Heidbreder, Ms. Sharon Kurek, Dr. Timothy Sands, Ms. Savita Sharma, Mr. M. Dwight Shelton Jr.

- 1. Update on Fraud, Waste, and Abuse Cases. The Committee met in closed session to receive an update on outstanding fraud, waste, and abuse cases.
- **2. Director of Internal Audit Performance Review**. The Committee met in closed session to provide an annual performance review to the Director of Internal Audit.
- 3. Discussion with the Director of Internal Audit. The Committee met in closed session with the Director of Internal Audit to discuss audits of specific departments and units where individual employees were identified.

Audit Open Session

Board Members Present: Mr. Jim Chapman, Dr. Rami Dalloul - faculty representative, Mr. Charles T. Hill, Mr. Dennis Treacy, Mr. Horacio Valeiras

VPI & SU Staff: Mr. Bob Broyden, Mr. Matthew Chan, Ms. D'Elia Chandler, Mr. Al Cooper, Mr. John Cusimano, Mr. Brian Daniels, Dr. John Dooley, Mr. Tim Hodge, Ms. Elizabeth Hooper, Ms. Sharon Kurek, Ms. Nancy Meacham, Dr. Scott Midkiff, Ms. Afroze Mohammed, Ms. Kim O'Rourke, Mr. Mark Owczarski, Mr. Charles Phlegar, Dr. Scot Ransbottom, Ms. Savita Sharma, Mr. M. Dwight Shelton Jr., Dr. Ken Smith

- **1. Opening Remarks and Approval of Minutes of the June 1, 2015 Meeting.** The Committee reviewed and approved the minutes of the June 1, 2015 meeting.
- 2. Review and Acceptance of University's Update of Responses to all Previously Issued Internal Audit Reports. The Committee reviewed the university's update of responses to all previously issued internal audit reports. As of March 31, 2015, the university had 19 open recommendations. Seven audit comments have been issued during the fourth quarter of this fiscal year. As of June 30, 2015, the university has addressed 15 comments, leaving 11 open recommendations in progress. Through August 2015, Internal Audit has closed one of 11 open recommendations for a total of 10 open recommendations. The Committee received a briefing at the meeting that reviewed the status of the outstanding comments, including the comments that have been addressed since June 30, 2015.

The Committee accepted the report.

3. Presentation, Discussion, and Acceptance of the Department of Internal Audit's Annual Status Report for the Fiscal Year Ended June 30, 2015. The Committee reviewed the Department of Internal Audit's Annual Status Report as of fiscal year ended June 30, 2015. This report documents the Committee's review of the effectiveness of the internal audit function, including staffing resources, financial budget, training, objectivity and reporting relationships as required by the Committee's Audit Charter. In addition to conducting scheduled audits, compliance reviews, and advisory services, the department participated in annual audit activities, fraud investigations, and professional development activities. Thirty audit projects or 88 percent of the audits on the fiscal year 2014-15 audit plan have been completed. Two risk-based audits and two advisory projects were underway at fiscal year-end and will be carried forward to fiscal year 2015-16. The Committee also received an overview of cost containment recommendations, recurring audit issues, and survey results for evaluating Internal Audit services.

The Committee accepted the report.

4. Review and Approval of the Fiscal Year 2015-16 Internal Audit Plan. The Committee reviewed for approval the audit plan for fiscal year 2015-16. Internal Audit conducted its annual risk assessment to identify the entities that should receive audit attention in fiscal year 2015-16. Internal Audit also created a university-wide information technology risk assessment and audit plan mapped to the ISO 27002 standard, an information technology standard published by International Organization for Standardization (ISO) that is considered best practice for developing and maintaining enterprise-wide IT security. Senior management had the opportunity to provide input on areas for

consideration in the preparation of the audit plan. Approximately 14,700 direct hours will be devoted to audits, planning, and reviews. Twenty-four risk-based audits and four compliance reviews are proposed for 2015-16. Internal Audit's goal is to complete 85 percent of the audit plan.

The Committee approved the Fiscal Year 2015-16 Internal Audit Plan.

- **5.** Review and Acceptance of the following Internal Audit Reports and Memos Issued. The Committee received the following ten internal audit reports.
 - a. Athletics NCAA Compliance: The audit received a rating of improvements are recommended. Audit recommendations were issued to management in the areas of entry and reconciliation of student-athlete financial aid data and declaration of playing and practice seasons. Additionally, low-priority recommendations of a less significant nature were noted in the areas of camp and clinic forms and timely submission of logging athletically related activity. Different components of Athletics are reviewed annually so that a comprehensive audit is conducted over a five-year period.
 - b. Environment Health and Safety: The audit received a rating of improvements are recommended. Audit recommendations were issued to management in the areas of inspection process oversight and timely distribution of inspection reports. Additionally, low-priority recommendations of a less significant nature were noted in the areas of timely updating of training records and website and database security.
 - c. FERPA and HIPAA Compliance: The audit received a rating of improvements are recommended. Audit recommendations were issued to management in the areas of organizational HIPAA compliance and FERPA training.
 - d. Office of Export and Secure Research Compliance: The audit received a rating of effective.
 - e. Research: Cost Sharing: The audit received a rating of effective. A low-priority recommendation was issued to management where opportunities for improvement were identified with regard to improving the efficiency of the Cost Share Tracker system.
 - f. University Scholarships and Financial Aid: The audit received a rating of effective. A low-priority recommendation was issued to management where opportunities for improvement were identified with regard to the Federal Pell Grant monitoring process. Different components of USFA are reviewed annually so that a comprehensive audit is conducted over a four-year period.

- g. Differential Tuition and Program Fees: The audit received a rating of improvements are recommended. Audit recommendations were issued to management in the areas of administration and funding of the Executive Master of Natural Resources program and the communication and transparency of fee revenue. Additionally, a low-priority recommendation was noted where opportunities for improvement were identified with regard to internal report certifications.
- h. Virginia Cooperative Extension Southeast District: The audit received a rating of improvements are recommended. Audit recommendations were issued to management in the areas of P14 appointments, expenditures, funds handling, memorandums of understanding, emergency preparedness, and record retention.
- College of Science: The compliance review received a rating of significant improvements are needed. Recommendations were issued to management where opportunities for further improvement were noted in the areas of fiscal responsibility, overtime compensation, expenditures, and emergency preparedness.
- j. Vice President for Information Technology: The compliance review received a rating of improvements are recommended. Recommendations were issued to management in the areas of overtime compensation, leave reporting, and state vehicle management.

The Committee accepted all ten reports.

6. Discussion of the Current Status of the June 30, 2015 Audit of the University's Financial Statements. The Committee received a report on the current status of the audit of the university's financial statements for 2014-15. The audit is proceeding according to schedule and the auditors will report the results at the November meeting. At this time, the university is not aware of any significant issues related to the audit.

Finance Closed Session

Board Members Present: Mr. Jim Chapman, Mr. Charles T, Hill, Ms. Deborah Petrine, Mr. Dennis Treacy, Mr. Horacio Valeiras

VPI & SU Staff: Ms. Kay Heidbreder, Ms. Sharon Kurek, Dr. Timothy Sands, Ms. Savita Sharma, Mr. M. Dwight Shelton Jr.

1. Motion for Closed Session.

* 2. Ratification of Personnel Changes Report. The Committee met in closed session to review and take action on the quarterly personnel changes report.

The Committee recommended the personnel changes report to the full Board for approval.

* 3. Resolution to Approve Distribution of NIKE Contract Revenue. The Committee met in closed session to review and take action on a resolution to approve distribution of NIKE Contract Revenue.

The Committee recommended the resolution to approve distribution of Nike Contract Revenue to the full Board for approval.

Finance Open Session

Board Members Present: Mr. Jim Chapman, Dr. Rami Dalloul - faculty representative, Mr. Charles T. Hill, Ms. Debbie Petrine, Mr. Dennis Treacy, Mr. Horacio Valeiras

VPI & SU Staff: Mr. Bob Broyden, Ms. D'Elia Chandler, Mr. Al Cooper, Mr. John Cusimano, Mr. Brian Daniels, Dr. Dennis Dean, Dr. John Dooley, Mr. Tim Hodge, Ms. Elizabeth Hooper, Mr. Hal Irvin, Ms. Sharon Kurek, Ms. Nancy Meacham, Dr. Scott Midkiff, Mr. Mark Owczarski, Mr. Charles Phlegar, Dr. Scott Ransbottom, Ms. Savita Sharma, Mr. M. Dwight Shelton Jr., Dr. Ken Smith, Ms. Elizabeth Tranter

- 1. Motion to Reconvene in Open Session.
- 2. Approval of Items Discussed in Closed Session. The Committee reviewed and ratified the quarterly personnel changes and approved the resolution for distribution of NIKE contract revenue.
- **3. Opening Remarks and Approval of Minutes of the June 1, 2015 Meeting.** The Committee reviewed and approved the minutes of the June 1, 2015 meeting.
- 4. Report on JLARC Recommendations to be addressed by the Board of Visitors. The Committee received a report on the Joint Legislative Audit and Review Commission (JLARC) recommendations to be addressed by the Board of Visitors. The 2012 General Assembly directed the JLARC to conduct a study on cost efficiency of public higher education institutions in Virginia and to identify cost reduction opportunities. The House Joint resolution that directed JLARC to conduct the study identified 14 areas to

consider including both academic and non-academic factors that affect the cost of higher education operations. The study conducted over a period of two years was completed on November 30, 2014. JLARC issued five reports during the course of the study with a total of 32 recommendations for the General Assembly's consideration. The university has provided highlights from the reports at prior meetings.

The approved budget passed by the General Assembly on February 26, 2015 included language recommending the Board of Visitors to consider implementation of seven of the JLARC recommendations, to the extent practicable. This report provided an update on the university's progress on the seven recommendations. The university is already in compliance with one of the recommendations related to the display of athletic fee and other mandatory fees on the university's website. The university is currently conducting an assessment of the remaining six recommendations and will provide a report to the Board at a future meeting.

5. Approval of Potential State Budget Initiatives for 2016-18. The Committee reviewed for approval the potential state budget initiatives for 2016-18. In preparation for the 2016 General Assembly session and the fiscal year 2016-18 budget, the administration develops budget requests for consideration by the Governor for inclusion in the Executive Budget proposal. The Governor will present the Executive Budget to the General Assembly on December 17, 2015.

Consistent with previous guidance and prior practice, the university developed a list of potential state budget requests designed to advance the vision of the university's long range plan. The proposals on this list were consistent with the initiatives included in the six-year operating plan, which were submitted to the state in July, 2015.

Several important statewide issues are traditionally addressed centrally and are not included in Virginia Tech's list of amendments. These issues are normally coordinated by the State Council of Higher Education for Virginia (SCHEV) and the Department of Planning and Budget (DPB) and include the following: faculty and staff salaries, base budget adequacy, equipment trust fund, maintenance reserve, operation and maintenance of new facilities, and student financial assistance.

These proposed initiatives are expected to meet the criteria for submission to the Executive Budget. However, the final budget request submission will be modified as necessary to consider guidance from DPB. The university may elect to submit all or some of these initiatives as decision packages for consideration in the Executive Budget process or as amendments during the 2016 General Assembly Session. If any material

additions are made to the request because of new opportunities or state guidance, these changes would be reviewed subsequently with the Board of Visitors.

The Committee recommended the potential state budget initiatives for 2016-18 to the full Board for approval.

* 6. Approval of Year-to-Date Financial Performance Report (July 1, 2014 – June 30, 2015). The Committee reviewed the Year-to-Date Financial Performance Report for July 1, 2014 – June 30, 2015 for approval. For the fourth quarter, budget adjustments were made to reflect revisions to projected revenues and expenditures. During the fourth quarter, tuition and fee revenues slightly exceeded the revised budget. Federal revenue budget in the Cooperative Extension/Agricultural Experiment Station Division was increased by \$3.8 million for the carryover of unexpended federal funds and revised calculations of federal formula funds.

The university successfully closed its fiscal year in accordance with guidance and requirements of the Commonwealth, with a balanced budget for its Educational and General operations, while fully utilizing its General Fund appropriations in the university division and the Cooperative Extension and Agricultural Experiment Station. The auxiliary enterprises achieved the annual revenue budget, while expenditures were lower than projected due to the timing of operating expenditures and projects that were initiated but incomplete at year-end.

For the quarter ending June 30, 2015, \$35.4 million has been expended for Educational and General capital projects, and \$55.8 million has been expended for Auxiliary Enterprises capital projects. Total capital outlay expenditures for the quarter ending June 30, 2015 was \$91.2 million.

The Committee recommended the Year-to-Date Financial Performance Report to the full Board for approval.

* 7. Approval of Virginia College Building Authority 9(d) Financing Resolution. The Committee reviewed for approval a financing resolution through the State's 9(d) Virginia College Building Authority pooled bond program to finance \$6.94 million plus amounts needed to fund issuance costs, original issue discount, and other financing expenses for the Unified Communications and Network Renewal project. The project replaces outdated campus telephones, voicemail systems, networking equipment, cabling, and equipment rooms.

The Committee recommended the Virginia College Building Authority 9(d) Financing Resolution to the full Board for approval.

8. Approval of Virginia Tech 9(d) Financing Resolutions. The Committee reviewed for approval 9(d) debt financing resolutions to finance capital projects for four existing auxiliary systems. For the auxiliary system-related debt issuance in Fall 2015, the university desires to issue debt on its own. Due to its Aa1/AA debt rating, the university is able to obtain favorable interest rates. The university plans to sell tax-exempt bonds in September, 2015 to fund \$63.068 million of capital projects for its four existing auxiliary systems. The projects include Upper Quad Residential Facility - \$54.358 million, South Recreation Field Improvements - \$3.71 million, Lane Substation Expansion - \$4.5 million and Indoor Athletic Training Facility - \$500,000. The four projects are seeking financing authorization for up to \$63.068 million plus amounts needed to fund issuance costs, original issue discount and other financing expenses. Contingent upon a continued low interest rate environment, the university also plans to refund its \$2.715 million Series 2004A General Revenue Pledge Refunding Bonds, which would require a separate bond resolution.

The Committee recommended the Virginia Tech 9(d) Financing Resolutions consisting of four system-related Amended and Restated resolutions, four corresponding Series resolutions Series 2015 A-D, and the General Revenue Pledge Refunding Bonds Resolution Series 2015E to the full Board for approval.

Joint Open Session

Board Members Present: Mr. Jim Chapman, Mr. William Fairchild, Mr. Charles T, Hill, Mr. Mike Quillen, Mr. Steve Sturgis, Mr. Dennis Treacy, Mr. Horacio Valeiras

VPI & SU Staff: Mr. Bob Broyden, Ms. D'Elia Chandler, Mr. Al Cooper, Mr. John Cusimano, Mr. Brian Daniels, Dr. John Dooley, Mr. Corey Earles, Dr. Lance Franklin, Mr. Mark Gess, Mr. William Hinson, Mr. Tim Hodge, Ms. Elizabeth Hooper, Ms. Angela Kates, Mr. Chris Kiwus, Ms. Sharon Kurek, Ms. Leigh Laclair, Ms. Nancy Meacham, Dr. Scott Midkiff, Mr. Mark Owczarski, Mr. Charles Phlegar, Dr. Scot Ransbottom, Ms. Savita Sharma, Mr. M. Dwight Shelton, Jr., Dr. Ken Smith, Mr. Jason Soileau, Dr. Sherwood Wilson

1. Ratification of the 2016 – 2022 Capital Outlay Plan. At its June 2015 meeting, the Committees approved the university's list of potential projects for inclusion in the 2016-2022 Capital Outlay Plan and authorized the university to develop and submit a final plan to the state in accordance with future guidance from the state and based on the

projects in the approved list. The university proceeded accordingly and met the state's June 15, 2015 deadline for submission of the plan. The \$1.1 billion total plan reflects the needs of the university and positions the university with options to respond to various funding abilities of the state in the future. The General Fund projects listed in the Plan may be used by the state to update its capital outlay plan and to make funding decisions in the 2016 budget session. Under the university's Management Agreement for Capital Projects, projects funded entirely with nongeneral funds may be approved by the Board on an as needed basis. The Committees reviewed for ratification the 2016-2022 Capital Outlay Plan as submitted to the state.

The Committees recommended the 2016-2022 Capital Outlay Plan to the full Board for approval.

2. Approval of Resolution for Virginia Bioinformatics Institute Data Center Expansion. The Committees reviewed for approval a resolution for the Virginia Bioinformatics Institute Data Center. The Virginia Bioinformatics Institute (VBI) was established in 2000 with the mission to lead the Commonwealth's efforts to become a national and international leader in the field of bioinformatics and to enhance the state's overall efforts in the life sciences. The Institute is a critical research engine for the university with over 83 research projects, a total current research portfolio of \$102 million, and a three-year average of \$17 million of annual research expenditures.

The university's vision to expand research under the Institute is a key strategic initiative for the future. The primary growth areas for VBI require high performance computing capabilities to operate web-based tools with real-time computing capabilities to support interactive applications backed by advanced computing models. The Institute's existing data centers are operating at full capacity. The proposed solution is to convert approximately 3,000 square feet of underutilized laboratory space to a high performance data center. The renovation to support the new data center will require upgrades to the building's power supply (additional two megawatts), cooling service, cooling racks, and computing equipment.

VBI has secured a grant from the Defense Threat Reduction Agency (DTRA) that would pay for additional sponsored research and the computing equipment needed to outfit a high performance computing data center. The research grant will not cover the necessary building and infrastructure upgrades needed for the data center. This request is for a \$5.9 million renovation project to make the necessary building and infrastructure upgrades to establish a new high performance data center within the Institute. As with all self-supporting projects, the university has developed a financing plan to provide assurance regarding the financial feasibility of the overall project.

The Committees recommended the Resolution for Virginia Bioinformatics Institute Data Center Expansion to the full Board for approval.

*Requires full Board approval.

There being no further business, the meeting adjourned at 12:35 p.m. The Finance and Audit Committee took a recess from 11:00 a.m. to 12:17 p.m. in order to attend President Sands' scheduled presentation at 11:00 a.m.

Update of Responses to Open Internal Audit Comments

FINANCE AND AUDIT COMMITTEE

June 30, 2015

As part of the internal audit process, university management participates in the opening and closing conferences and receives copies of all Internal Audit final reports. The audited units are responsible for implementing action plans by the agreed upon implementation dates, and management is responsible for ongoing oversight and monitoring of progress to ensure solutions are implemented without unnecessary delays. Management supports units as necessary when assistance is needed to complete an action plan. As units progress toward completion of an action plan, Internal Audit performs a follow-up visit within two weeks after the target implementation date. Internal Audit is responsible for conducting independent follow up testing to verify mitigation of the risks identified in the recommendation and formally close the recommendation. As part of management's oversight and monitoring responsibility, this report is provided to update the Finance and Audit Committee on the status of outstanding recommendations. Management reviews and assesses recommendations with university-wide implications and shares the recommendations with responsible administrative departments for process improvements, additions or clarification of university policy, and inclusion in training programs and campus communications. Management continues to emphasize the prompt completion of action plans.

The report includes outstanding recommendations from Compliance Reviews and Audit Reports. Consistent with the report presented at the June Board meeting, the report of open recommendations includes three attachments:

- Attachment A summarizes each audit in order of final report date with extended and on-schedule open recommendations.
- Attachment B details all open high or medium priority recommendations for each audit in order of the original target completion date, and with an explanation for those having revised target dates or revised priority levels.
- Attachment C charts performance in implementing recommendations on schedule over the last seven years. The 98 percent on-schedule rate for fiscal year 2015 reflects closing 48 of 49 recommendations by the original target date and management has established a revised target date for the extended item.

The report presented at the June 1, 2015 meeting covered Internal Audit reports reviewed and accepted through March 31, 2015 and included 19 open medium and high priority recommendations. Activity for the quarter ended June 30, 2015 resulted in the following:

Open recommendations as of March 31, 2015	19
Add: Medium & High priority recommendations accepted June 1, 2015	7
Subtract: recommendations addressed since March 31, 2015	15
Remaining open recommendations as of June 30, 2015	11

While this report is prepared as of the end of the quarter, management continues to receive updates from Internal Audit regarding auditee progress on action plans. Through August 4, 2015 Internal Audit has closed one of 11 outstanding medium and high priority recommendations for an adjusted total of 10 open recommendations. The remaining open recommendations are progressing as expected and are on track to meet their respective target due dates. Management continues to work conjointly with the units and providing assistance as needed to ensure the action plans are completed timely.

ATTACHMENT A

Open Recommendations by Priority Level

FINANCE AND AUDIT COMMITTEE

June 30, 2015

			Total Recommendations									
Report Date	Audit Name	A dié Noveeb e v	ISSUED	COMPLETED				OPEN				
Report Date	Audit Name	Audit Number			Exte	Extended	On-schedule		Total			
					High	Medium	High	Medium	Open			
30-Oct-13	Housing and Residence Life	14-1134	2	1	1				1			
23-Oct-14	Facilities Work Order System	14-1176	2					2	2			
23-Feb-15	University Building Official	15-1193	5	3			1	1	2			
05-Mar-15	Conflicts of Interest and Commitment	14-1163	3	1			2		2			
08-May-15	College of Veterinary Medicine	15-1202	2					2	2			
08-May-15	Vice President for Administration	15-1210	1					1	1			
13-May-15	IT Security Incident Response	15-1185	2	1			1		1			
	Totals:	17	6	1	0	4	6	11				

ATTACHMENT B

Internal Audit Open Recommendations

FINANCE AND AUDIT COMMITTEE

June 30, 2015

					Priority		Priority Target D		Follow	
Report Date	Item	Audit Number	Audit Name	Recommendation Name	Original	Revised	Original	Revised	Up Status	Status of Recommendations with Revised Priority / Target Dates
30-Oct-13	1	14-1134	Housing and Residence Life	Summer Conferences and Camps	High		15-Sep-14	15-Sep-15	1	The unit developed an appropriate checklist of standard components to be completed for summer conferences and camps to address the identified risks. The unit did not consistently complete the checklist; thus proper documentation was not obtained for approximately 30% of events held in the summer of 2014. A revised management action plan and target date has been established based on Internal Audit's follow up with the unit.
08-May-15	2	15-1202	College of Veterinary Medicine	Health and Safety	Medium		01-Jul-15		2	
08-May-15	3	15-1202	College of Veterinary Medicine	Service Center Billing	Medium		15-Sep-15		2	
08-May-15	4	15-1210	Vice President for Administration	Overtime Compensation	Medium		15-Sep-15		2	
23-Oct-14	5	14-1176	Facilities Work Order System	Labor Rates	Medium		01-Nov-15		3	
23-Feb-15	6	15-1193	University Building Official	Inaccurate and Untimely Non-Capital Permit Billing	High		30-Nov-15		3	
23-Feb-15	7	15-1193	University Building Official	Inaccurate University Building Official Master Listing	Medium		30-Nov-15		3	
13-May-15	8	15-1185	IT Security Incident Response	Incident Response Plan	High		01-Dec-15		3	
23-Oct-14	9	14-1176	Facilities Work Order System	HokieServ Process Improvements	Medium		01-Apr-16		3	
05-Mar-15	10	14-1163	Conflicts of Interest and Commitment	Conflict of Interest Programmatic Enhancement	High		30-Sep-16		3	
05-Mar-15	11	14-1163	Conflicts of Interest and Commitment	Clarification of Conflict of Interest Officer Role and Disclosure Requirements	High		30-Sep-16		3	

⁽¹⁾ A revised management action plan and target date has been established based on Internal Audit's follow up with the unit.

⁽²⁾ As of June 30, 2015, management confirmed during follow up discussions with Internal Audit that actions are occurring and the target date will be met. The Internal Audit department will conduct testing after the due date to confirm that the Management Action Plan is implemented in accordance with the recommendations.

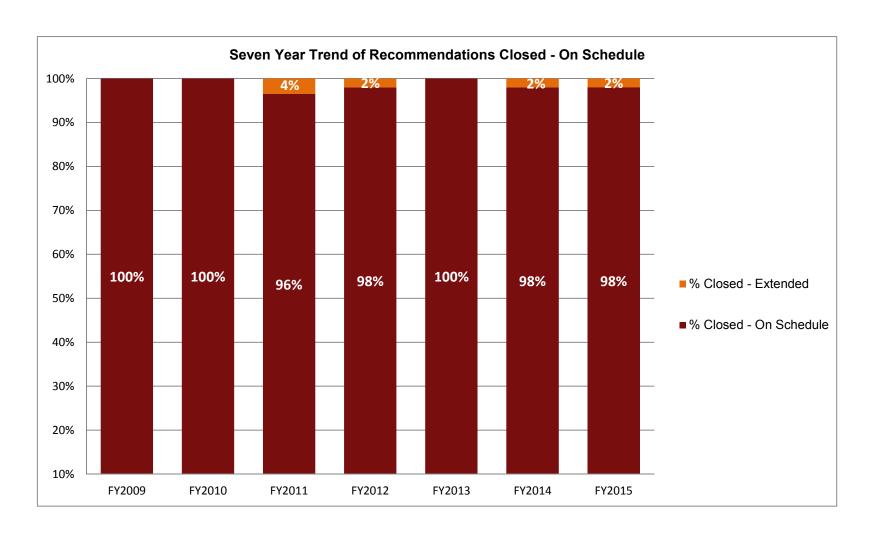
⁽³⁾ Target date is beyond current calendar quarter. Management has follow-up discussions with the auditor to monitor progress, to assist with actions that may be needed to meet target dates, and to assess the feasibility of the target date.

ATTACHMENT C

Management Performance and Trends Regarding Internal Audit Recommendations

FINANCE AND AUDIT COMMITTEE

June 30, 2015



Internal Audit Department Annual Status Report for the Fiscal Year Ended June 30, 2015

FINANCE AND AUDIT COMMITTEE

August 4, 2015

Mission Statement - Scope of Work

The mission of the Department of Internal Audit at Virginia Tech is to provide independent, objective assurance and advisory services designed to add value and improve the university's operations. Additionally, Internal Audit helps university departments accomplish their objectives by bringing a systematic, disciplined approach to the identification of opportunities for improvement in the areas of risk management, internal control, efficiency, policy, and procedure.

Internal audit coverage encompasses reviews of all university operations and activities to appraise:

- the accuracy, reliability, and timeliness of significant financial, managerial, and operating information and the adequacy of the internal controls employed over the compilation and reporting of such information;
- compliance with policies, procedures, standards, laws, and regulations;
- · appropriate identification and management of risk;
- measures taken to safeguard assets, including tests of existence and ownership;
- the adequacy, propriety, and cost-effectiveness of accounting, financial, and other controls throughout the university, as well as compliance therewith;
- measures taken to foster continuous improvement in control processes;
- whether university resources are being acquired, managed, and protected in an economical, efficient, and effective manner; and
- the achievement of programs, plans, and objectives.

Internal Audit reports functionally to the Finance and Audit Committee of the Board of Visitors. For day-to-day operations, the Director reports administratively to the President.

Executive Summary – State of Control Environment

The Internal Audit function continues to be a significant element of the university's overall control structure and a positive influence on the control environment. During fiscal year 2014-15, Internal Audit examined and tested the operations and systems of internal control within a number of university departments to assist management and the Board of Visitors in the discharge of their fiduciary responsibilities.

As a result of the audit, advisory service, and investigation work performed during fiscal year 2014-15, no deficiencies representing material control weaknesses were identified;

however, a number of areas requiring improvement were noted. The scope of audit work was not limited in any way by management or others, nor were there any instances where Internal Audit considered its independence or objectivity to have been impaired. Management and others were found to be conscientious, cognizant, and accepting of their responsibility for internal control, open and cooperative, and supportive of audit efforts. Management has generally accepted audit findings and responded by developing action plans that address the concerns included in report recommendations.

These statements are made with the understanding that no system of internal control provides absolute assurance that controls are functioning effectively. These statements are also not meant to imply that fraud and other irregularities do not exist or, if they do exist, are certain to be detected. Decisions as to the level of risk that is tolerable and should be accepted by the university are the responsibility of management. That said, based on the audit, advisory service, and investigation work performed during fiscal year 2014-15, Internal Audit did not identify any areas where management decided to accept a level of risk that we believed to be unacceptable.

Summary Observations – Audit Program

Audits were performed in accordance with the fiscal year 2014-15 annual audit plan at a level consistent with the resources of the Department of Internal Audit. Thirty audit projects on the fiscal year 2014-15 audit plan were completed. During the fiscal year, five additional projects were added to the audit plan at management's request.

Due to personnel turnover, the planned audit of Departmental Scholarships was deferred. At management's request, the planned audit of Human Resources: Leave Accounting was deferred due to system development and implementation efforts. Both of these risk-based audits will be completed in the upcoming fiscal year. Additionally, in an effort to coordinate projects and improve efficiencies with the Auditor of Public Accounts (APA), the risk-based audit of IT: Employee Access Life Cycle was cancelled due to its inclusion within an APA review. Ten audit projects were completed since the June board meeting.

For fiscal year 2014-15, Internal Audit completed 88 percent of its audit plan as depicted in Exhibit 1. Two risk-based audits (Facilities Operations and Language and Culture Institute) and two advisory projects (one conducted confidentially at the request of University Legal Counsel and another of the Washington-Alexandria Architecture Center conducted at the request of the College of Architecture and Urban Studies) are currently underway. These projects will be carried forward into fiscal year 2014-15.

Exhibit 1
FY 2014-15 Completion of Audit Plan

Audits	
Total # of Audits Planned	28
Total # of Supplemental Audits	5
Total # of Carry Forwards	4
Total # of Planned Audits Canceled and/or Deferred	3
Total Audits in Plan as Amended	34
Total Audits Completed	30
Audits - Percentage Complete	88%
Note: Includes Compliance and Advisory Reviews	

Exhibit 2 displays the distribution of direct audit hours (72%) by category. The indirect hours for administration, computer/network support, training, and compensated absence hours (28%) are not included in this chart. While the department's focus remains on conducting risk-based audits, increased effort was reallocated to advisory services from compliance reviews since they required less time compared to the prior year.

Exhibit 2
FY 2014-15 Distribution of Direct Audit Hours

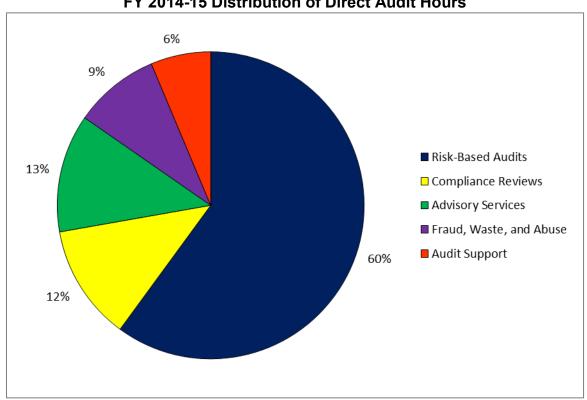


Exhibit 3 illustrates the difference between actual and planned hours during fiscal year 2014-15. The department refilled two position vacancies at varying times during the fiscal year resulting in increased effort in indirect, risk-based audit, and compliance

review categories as the newly hired individuals were trained to understand university policies and the methods utilized by the department to conduct, review, and/or report the varying types of projects. Risk-based audit hours further exceeded the planned measure due to the complexity and extensiveness of several audit topics as well as the cross functional nature of certain projects.

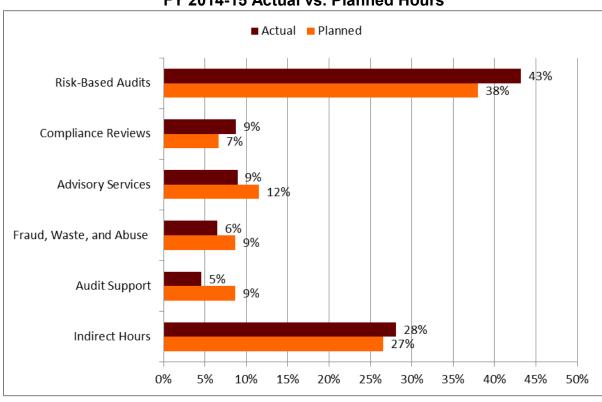


Exhibit 3
FY 2014-15 Actual vs. Planned Hours

While the realized advisory service hours were less than planned as resources were refocused due to the circumstances outlined above, the demand for these consultative engagements continues to grow each year. A significant time commitment within this category was attributable to the extensive review of the Student-Athlete Academic Experience, conducted at the request of the President. The project necessitated collaboration with several central units and required a substantial time commitment by both Internal Audit staff and leadership team resulting in reallocation of resources during its completion.

The overall effort spent on fraud, waste, and abuse investigations was less than anticipated as the number of cases received decreased from projections based on historical tendencies. Audit support hours were reduced as the leadership team introduced process improvements to ensure efficiency and effectiveness of the annual campus-wide risk assessment. An electronic survey was developed and distributed to help streamline and formalize the audit planning approach. Additionally, indirect effort

exceeded its planned amount as two staff members were on extended leave at various points throughout the fiscal year due to family/personal reasons.

Exhibit 4 below displays the status of the fiscal year 2014-15 audit plan as amended. All compliance review projects were completed, while two risk-based audits are in progress and will be carried forward to the fiscal year 2015-16 audit plan.

Exhibit 4
FY 2014-15 Audit Plan Status

FY 2014-15 Audit Plan Status				
Audit Project	Risk Ranking	BOV Mtg		
Risk-Based Audit				
Athletics NCAA Compliance *	High	Aug-15		
Civil and Environmental Engineering	High	Mar-15		
Conflicts of Interest and Commitment	High	Mar-15		
Departmental Scholarships	High	Deferred		
Environmental Health and Safety	High	Aug-15		
Facilities Operations	High	Carry Forward		
FERPA and HIPAA Compliance	High	Aug-15		
Health and Counseling Centers	High	Jun-15		
Human Resources: Leave Accounting *	High	Deferred		
IT: Employee Access Life Cycle	High	Cancelled		
IT: Oracle Database	High	Mar-15		
IT: Security Incident Response	High	Jun-15		
Materials Science and Engineering	High	Mar-15		
Office of Export and Secure Research Compliance	High	Aug-15		
Research: Cost Sharing *	High	Aug-15		
School of Education	High	Mar-15		
University Scholarships and Financial Aid *	High	Aug-15		
VT Electric Service	High	Mar-15		
College of Veterinary Medicine	Medium	Jun-15		
Differential Tuition and Program Fees	Medium	Aug-15		
Facilities Work Order System	Medium	Nov-14		
Fralin Life Science Institute	Medium	Mar-15		
Language and Culture Institute	Medium	Carry Forward		
University Building Official	Medium	Mar-15		
Virginia Cooperative Extension Southeast District	Medium	Aug-15		
Compliance Review	'S			
College of Business		Mar-15		
College of Science	Aug-15			
Vice President for Administration	Jun-15			
Vice President for Alumni Relations	Nov-14			
Vice President for Information Technology	Aug-15			
* Annual Audit on Different Components				

Additionally, Internal Audit responded to management's requests for advisory services and consultative guidance in the following areas:

- <u>Equine Medical Center (EMC)</u>: A review to determine whether the operating parameters of an external entity housed within the EMC resulted in inappropriate use of EMC resources.
- <u>Gift Accounting</u>: A review of funds handling procedures to determine adherence with university and Virginia Tech Foundation, Inc. policies, resulting in identification of variances between the two policy expectations.
- <u>Student-Athlete Academic Experience</u>: This extensive review conducted at the request of the President necessitated collaboration with several central units and required a substantial time commitment, with Internal Audit staff members contributing in excess of 800 aggregate hours, to review 10 years of student-athlete academic data.
- Washington-Alexandria Architecture Center (WAAC): This review is underway and will focus on determining WAAC's compliance with university policies and procedures, specifically related to its financial operations including the funds handling activity.
- College of Agriculture and Life Sciences and the Virginia Tech Foundation, Inc.: A review of procedures related to animal sales affiliated with these organizations.
- <u>University Legal Counsel Requested Advisories</u>: Two reviews conducted under attorney-client work product.

Management Corrective Actions (MCAs)

Internal Audit conducts follow-up on management's implementation of agreed upon improvements for dozens of previously issued audit recommendations. Each audit recommendation and its associated MCA is given a rating of high, medium, or low priority by the auditors and management; however, if a central administration or university-wide MCA is identified, no rating is attached. This judgment is made in a local context, and items identified as high do not necessarily convey material deficiencies or risks beyond the operating environment in which found. A primary objective of this classification is to drive a greater sense of urgency in completing the corrective action and completion of audit follow-up. The Finance and Audit Committee receives the higher priority recommendations and associated MCAs. However, Internal Audit and management closely monitor all outstanding recommendations to ensure they are adequately addressed by the responsible parties.

Of the 96 MCAs generated during audits issued in fiscal year 2014-15, Internal Audit categorized 14 as high priority (15%). High-priority MCAs would include those that are systemic or have a broad impact; have contributed to a significant investigation finding; are reportable conditions under professional literature; create health or safety concerns; involve senior officials; create exposures to fines, penalties, or refunds; or are otherwise judged as significant control issues. Open MCAs at fiscal year-end have been outstanding an average of 141 days and are on track for completion. Audits for fiscal year 2014-15 resulted in recommendations with ratings of high, medium, or low MCAs as follows:

Exhibit 5 Inventory of MCAs

Beginning # of MCAs	53
MCAs added	96
MCAs closed	<u>110</u>
Current open inventory of MCAs	39

Note: The open inventory above includes 17 open MCAs from the reports presented to the Finance and Audit Committee at the August 31, 2015 meeting. Additionally, 12 of the 39 open MCAs are categorized as low-priority recommendations identified during audits that are excluded from status reports of previously issued recommendations shared with the Finance and Audit Committee.

Cost Containment and Revenue Enhancement Recommendations

Internal Audit emphasized the identification of cost containment and revenue enhancement strategies in the performance of audit activities. Internal Audit issued the following recommendations to management to assist with cost containment or revenue enhancement strategies:

- Facilities Work Order System Internal Audit noted that blended labor rates charged to customer-funded work orders exceeded the cost of the actual labor by 58 percent, resulting in a variance of approximately \$197,000 for the audit period. While blended or flat labor rates are acceptable, no supporting documentation was produced to indicate how the established rates were derived. Establishing a method to derive labor rates for the various shops and rate types applied to work orders may help the Facilities Department recover or track costs that are more closely tied to the costs actually expended.
- <u>Differential Tuition and Program Fees</u> Internal Audit found that \$157,000 of tuition remission from overhead funds was provided to graduate students in the Executive Master of Natural Resources Program without adhering to university procedures while assisting on work within an associated center. Furthermore, travel reimbursements were provided to students in the program exceeding \$32,000 with no reasonable justification. A recommendation was issued to establish effective methods for offering tuition remission and funding travel expenses to promote appropriate use of funds, help ensure compliance with university procedures, and promote equity among students.
- <u>University Building Official</u> A recommendation was made to improve non-capital permit billing by basing fees on the customer approved estimates, which could have collected an additional \$55,000 from campus customers, availing the central budget resources for other purposes.
- <u>Civil and Environmental Engineering</u> A recommendation was issued that could reduce duplicative effort on entering data into two separate systems.

 <u>Compliance Reviews</u> – Internal Audit issued recommendations related to improving the accuracy of leave and overtime compensation calculations that had resulted in overcompensating employees. Additionally, recommendations related to improving compliance with university policy and procedure governing purchases made with Corporate Purchasing Cards that had resulted in erroneous or inappropriate expenditures.

Recurring Audit Recommendations

The same or similar recommendations noted below were identified in multiple audit reports issued in fiscal year 2014-15. The data in Exhibit 6 will be shared with leadership in the appropriate administrative departments so that they can establish education and/or monitoring programs that will reduce the recurrence of these issues in future years.

Exhibit 6
Recurring Audit Recommendations

Recommendation	Occurrences	Audits
IT: Security	11	Environmental Health and Safety
,		Health and Counseling Centers
		IT: Security Incident Response (9)
Documentation and	8	Athletics NCAA Compliance
Communication of Policies		Conflicts of Interest and Commitment
and Procedures		Differential Tuition and Program Fees
		Facilities Work Order System
		FERPA and HIPAA Compliance
		IT: Security Incident Response
		University Building Official (2)
Fiscal Responsibility	5	Civil and Environmental Engineering
		College of Science
		Pamplin College of Business
		School of Education
		Vice President for Administration
Regulatory Non-	4	Athletics NCAA Compliance (3)
Compliance		University Building Official
Billing and Accounts	4	College of Veterinary Medicine
Receivable		University Building Official (2)
		VCE Southeast District
Funds Handling	4	Pamplin College of Business
		VCE Southeast District
		Vice President for Administration
L		Virginia Tech Electric Service
IT: Logical Access	4	Facilities Work Order System
		IT: Oracle Database (2)
		Virginia Tech Electric Service
Sponsored Projects	4	Civil and Environmental Engineering
Administration		Conflicts of Interest and Commitment
		Materials Science and Engineering (2)

Results of Surveys for Evaluating Internal Audit Services

Each audit and compliance review management contact is emailed a link to an online survey requesting their assistance in evaluating the quality of audit services provided by Internal Audit. Feedback from the surveys is used to enhance the overall quality of university audits. The survey responses are grouped into three categories focused on the following areas:

<u>Audit Team</u>	Demonstrated	technical	proficiency,	approached	audit	with
	objective and	professional	manner, and	conclusions	and opi	nions

were logical;

Discussed the preliminary audit objectives, scope, and timing of the Audit Performance audit, management concerns and suggestions were solicited and

considered in the audit, and disruption of daily activities was

minimized as much as possible during the audit;

Written clearly and contained adequate explanations for the Audit Report observations, and recommendations improved or added value to

the department's operation.

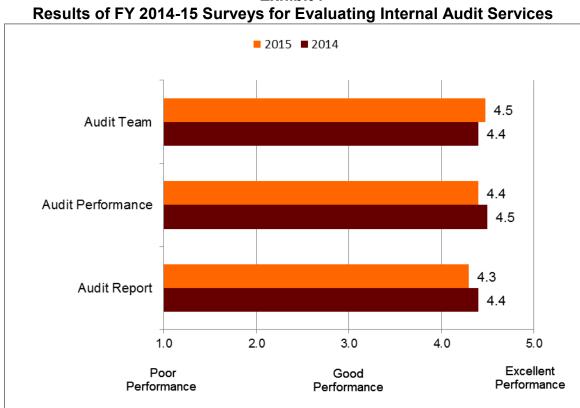


Exhibit 7

Overall customer ratings were highly favorable as overall results fell between excellent and good performance. Attaining a cumulative average score of 4.4 on a 5-point scale exceeded Internal Audit's goal of a 4.0 rating on survey feedback and was the same

overall result as in fiscal year 2013-14. Comments provided by clients showed appreciation of the audit process, the communication during the audit, and/or the professionalism, courtesy, and competency demonstrated by the audit team. One respondent recommended that the department offer pre-audit training, as was delivered to them in the prior year, so that clients can better prepare for upcoming reviews. Additional respondents noted that the audit process resulted in easy and logical actions to mitigate risk and that the audit team asked the right questions and listened to the answers.

Fraud Waste and Abuse

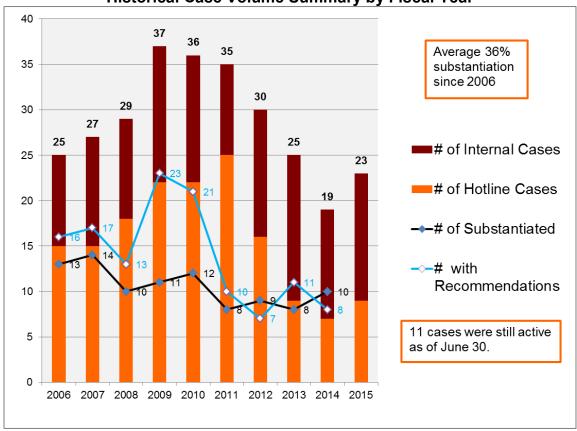
Internal Audit conducts reviews of all state hotline and internal complaints alleging fraud, waste, and abuse. During fiscal year 2014-15, Internal Audit received 23 cases, nine state hotline and 14 internal complaints. Fifteen cases from fiscal year 2014-15 were closed, along with eight cases from prior fiscal years. For the 23 cases completed, none of the six state hotline cases were substantiated, but 8 of 17 (47%) internally reported cases were substantiated. While approximately 51 percent of internally reported fraud, waste, and abuse allegations have historically been substantiated, only 25 percent of state hotline cases have historically been substantiated for a combined average of 36 percent since 2005-06.

Internal Audit makes recommendations of improvements related to business practices, communication, and management that improve the overall operating environment of the university. Historically for the past 10 years, Internal Audit made recommendations in 84 percent of substantiated cases. In cases where there is insufficient evidence to demonstrate fraud, waste, or abuse, Internal Audit still made recommendations in 26 percent of cases. Overall, on average, Internal Audit made recommendations in 47 percent of cases.

While the fraud, waste, and abuse caseload increased over the first half of the past tenyear span, attributable most likely to recessionary effects, the last five years have seen a downward trend in quantity. The number of reported cases has remained consistent over the prior three years. Since fiscal year 2005-06, over 70 percent of the allegations investigated by Internal Audit fall within five general categories: leave or time abuse, improper use of university resources, abuse of authority, conflict of interest, or theft or embezzlement.

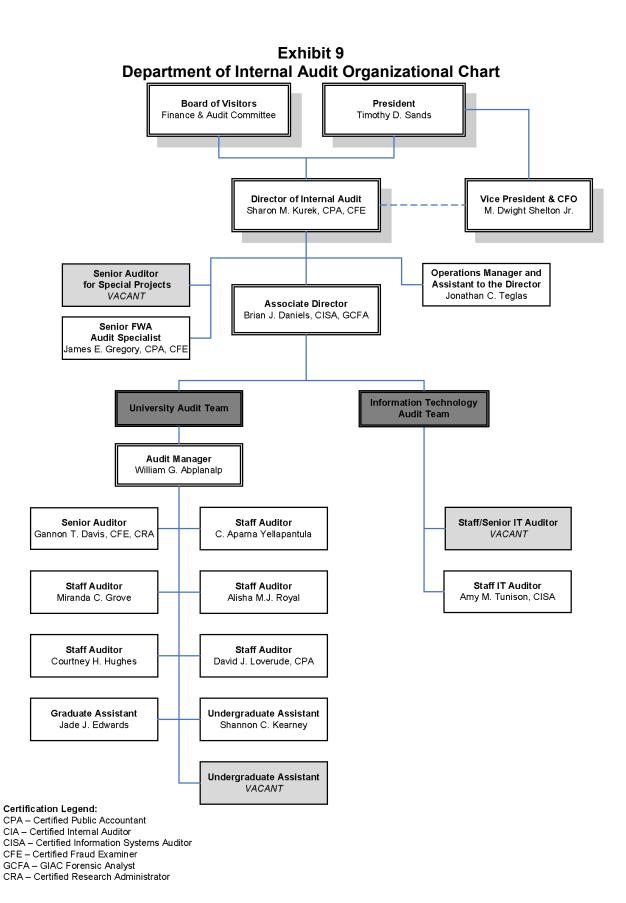
Exhibit 8 displays the number of fraud, waste, and abuse reviews performed for hotline and internal complaints for fiscal years 2005-06 through 2014-15, the number of substantiated cases, and the number of cases with recommendations for management.

Exhibit 8
Fraud, Waste, and Abuse
Historical Case Volume Summary by Fiscal Year



Staffing / Resources

Internal Audit entered fiscal year 2014-15 staffed with a Director, Associate Director, Audit Manager, seven auditors, a Coordinator of Administrative Operations, a part-time wage Senior Fraud Specialist, one Graduate Assistant, and an undergraduate student wage worker. During the year, an Audit Manager, two Staff Auditors, and an Undergraduate Student Wage Worker were hired due to personnel turnover. At fiscal-year end, a search was underway for a Senior Auditor for Special Projects (a newly allocated position from the fiscal year 2014-15 budget cycle) and an IT Auditor. Exhibit 9 shows the Department of Internal Audit organizational chart as of June 30, 2015.



David W. Crotts, Senior IT Auditor, accepted a new position within the university's Finance division becoming the Associate Director of Strategic Initiatives and Business Analysis. In preparation for the transition, Mr. Crotts documented and shared institutional knowledge with the audit staff on procedures or processes he helped to create or manage. Mr. Crotts began his career in the Department of Internal Audit as an undergraduate student auditor more than 10 years ago. He will continue to serve a vital role within the division.

Gannon T. Davis, Senior Auditor, passed part I of the Certified Internal Auditor (CIA) exam on Internal Audit Activity's Role in Governance, Risk, and Control. Mr. Davis served a critical role in training and mentoring less experienced and newly hired staff members on audit and compliance processes.

Brian J. Daniels, Associate Director, continues to join with peer institutions through the Virginia Alliance for Secure Computing and Networking (VASCAN) group in an effort to plan and organize the annual fall conference aimed at improving information security in the higher education arena within the commonwealth. Mr. Daniels serves on the Association of College and University Auditors (ACUA) Membership Committee where he assisted in the preparation a cost study for the to evaluate membership fee structures in an effort to increase revenue and make fees more equitable for member organizations. Additionally, Mr. Daniels collaborated with peers from other institutions of higher education nationally while participating on an external QAR team for the Virginia Community College System.

Miranda C. Grove, Staff Auditor, completed the Research Administrator Certificate - Level 1 program offered by University Organization and Professional Development. Ms. Grove took graduate level classes in her pursuit of a graduate certificate in public and non-profit financial management.

Sharon M. Kurek, Director of Internal Audit, serves as an ACUA Board Member-at-Large and as a liaison to the ACUA Best Practices Committee. Additionally, the ACUA Professional Education Committee (PEC) named the Director to the ACUA Faculty, which is a resource to other associations or universities looking for talented speakers on topics such as risk, internal controls, auditing, compliance, and fraud. Ms. Kurek presented at the national ACUA annual conference in September 2014. She also participated in the university's intensive year-long Executive Development Institute (EDI). Built on the premise of personal, leadership, and network development, EDI provides participants the unique opportunity to grapple with important challenges specific to today's dynamic higher education landscape. In collaboration with peers from other institutions of higher education nationally, Ms. Kurek participated on an external QAR team for the University of Alabama System.

Alisha M.J. Royal, Staff Auditor, maintains an active role in the local chapter of the the Institute for Internal Auditors (IIA), serving as a board member. Staff members participated in several IIA sponsored events. Ms. Royal also completed the Research

Administrator Certificate - Level 2 program offered by University Organization and Professional Development.

Jonathan C. Teglas, who previously served as the Coordinator for Administrative Operations, was promoted to Operations Manager and Assistant to the Director. Mr. Teglas' expanded responsibilities include general oversight of the department's communication efforts. He also provides leadership and assistance on a variety of complex and special projects. Mr. Teglas serves as a member of the ACUA Best Practices Committee where he facilitated the organization's biannual salary and resource survey and collaborated with peers nationwide to execute the committee's survey development efforts.

Amy M. Tunison, Staff IT Auditor, earned the designation of Certified Information Systems Auditor (CISA) after completing the work experience requirement. Additionally, Ms. Tunison took graduate level classes in IT Security and Trust in her pursuit of a graduate degree.

Internal Audit leadership continued to participate actively within the College and University Auditors of Virginia organization, attending meetings with peer Audit Directors through the CUAV group to discuss best practices or issues. The Director is a member of the CUAV Legislative Committee, including proactive involvement in the state legislative process with respect to laws and regulations pertinent to higher education internal audit and effective communication thereof to stakeholders.

Inclusion and diversity within the workplace continues to be stressed. Leadership developed department-level inclusion and diversity goals and is also working to meet the established goals set by the Office of the Vice President for Finance. These include ensuring employee participation in an inclusion and diversity training activity. As of yearend, all employees had either attended or committed to attending a diversity-related training session. A staff member was appointed as our diversity leader to raise awareness and stay abreast of diversity issues and happenings. This person is our department representative at campus-wide diversity meetings and training sessions, and reports periodically at staff meetings.

Internal Audit staff has more than 125 years of combined professional experience in accounting, auditing, and IT and over 50 years of service to Virginia Tech. The staff offers an extensive background with expertise in such functional areas as IT; fraud and forensic; environmental, health, and safety; NCAA bylaws; financial aid; research regulations; and general financial, compliance, and operational auditing. Exhibit 10 shows the certifications and advanced degrees held by Internal Audit staff at yearend.

Exhibit 10
Certification and Advanced Degrees held by Internal Audit

Certification and Advanced Degrees			
Professional Certifications			
3 Certified Public Accountants (CPA)			
3 Certified Fraud Examiners (CFE)			
2 Certified Information Systems Auditor (CISA)			
1 Certified Forensics Analyst (GCFA)			
1 Certified Research Administrator (CRA)			
Advanced Degrees			
3 Master of Business Administration (MBA)			
1 Master of Education (MEd)			
1 Master of Science, Journalism			

To further develop the audit staff's professional skills, Exhibit 11 illustrates the types of continuing professional education (CPEs) that staff participated in during fiscal year 2014-15. Internal Audit ensures each staff member annually receives 40 hours of CPEs to meet professional certification requirements. On average this fiscal year, staff members completed 46 hours of CPEs.

Exhibit 11 FY 2014-15 Professional Development

1 1 2014-101 Tolessional Development			
Type of Training	Number of CPEs		
Auditing	180.5		
Specialized Knowledge and Applications	97.5		
Higher Education	87.5		
Fraud and Investigations	58		
IT Auditing	36		
Critical Thinking	32		
Ethics	16		
Personal Development	13		
IT Security	12		
Management Advisory Services	8		
Business Management and Organization	6		
Management	3		
Communication	2		
Governmental Accounting	2		

Exhibit 12 compares Internal Audit's expenditures from fiscal year 2013-14 with expenditures for fiscal year 2014-15. The expenditures for salaries and benefits increased mostly due to consistent staffing levels and the university's merit pay increase in November 2014. The department remains committed to providing functional, quality, continued professional education as well as training opportunities for newly hired

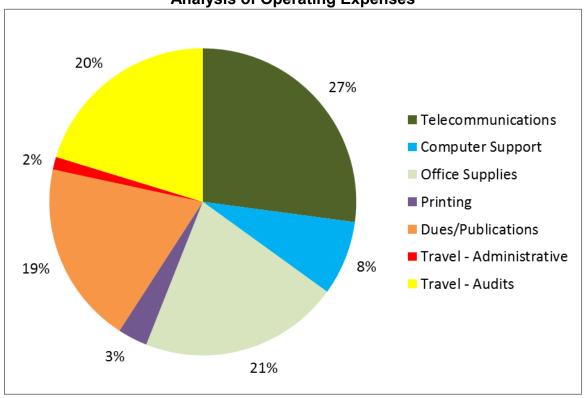
employees. Operating expenses increased due in large part to off-site audit work at campus locations from Abingdon to Arlington and Leesburg to Northampton. Audit software expenses in fiscal year 2014-15 were slightly lower as certain license fees were reevaluated and restructured for the benefit of the department. There were no expenditures for leadership development and assessment or outsourced audit services as those programs were specific to and/or concluded last fiscal year. Personnel expenses in both years were attributable to recruitment and relocation costs of departmental staff members.

Exhibit 12
Analysis of Expenditures

	FY2014	FY2015
Salaries and Benefits	1,015,804	1,118,062
Training	44,738	45,463
Operating Expenses	29,895	33,063
Equipment	14,652	8,836
Audit Software	13,430	12,346
Leadership Development and Assessment	9,275	-
Outsourced Audit Services	4,777	-
Personnel Expenses	4,306	1,110
Total	\$1,136,879	\$1,218,880

Exhibit 13 shows an analysis of operating expenses. Approximately 60 percent of operating expenses resulted from basic costs to support the department including telecommunications, computer support, office supplies, and printing. Travel expenses for off-site audits will remain an ongoing cost as audit effort will continue to be dedicated to activity outside of Blacksburg. Similarly, membership dues and publication expenses will remain an ongoing cost as leadership encourages and sponsors professional certification and organizational participation.

Exhibit 13
Analysis of Operating Expenses







Internal Audit

Annual Update



Mission Statement

- Provide independent, objective assurance and advisory services designed to add value and improve the university's operations
- Help university departments accomplish their objectives by bringing a systematic, disciplined approach to identify opportunities for improvement





State of Control Environment

- Internal Audit Program
 - Significant element of the university's overall control structure
 - Positive influence on the control environment
 - Assist management and the BOV in the discharge of their fiduciary responsibilities





State of Control Environment

- No material control weaknesses were identified; however, a number of areas requiring improvement were noted
- Work was not limited by management
- Independence/objectivity was not impaired





State of Control Environment

- Management accepts their responsibility for internal control and is supportive of audit efforts
- Management generally accepts audit findings and responds by developing action plans to address concerns





Exh. 1: FY 2014-15 Completion of Audit Plan

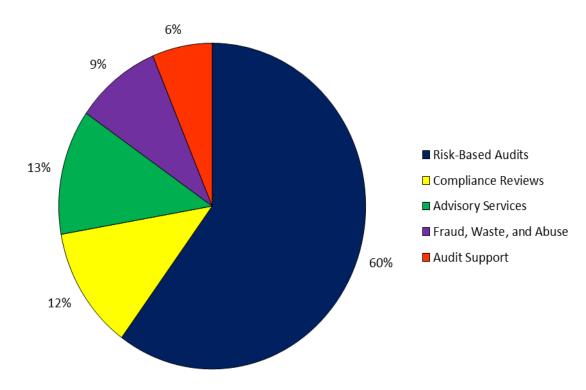
Audits	
Total # of Audits Planned	28
Total # of Supplemental Audits	5
Total # of Carry Forwards	4
Total # of Planned Audits Canceled and/or Deferred	3
Total Audits in Plan as Amended	34
Total Audits Completed	30
Audits - Percentage Complete	88%
Note: Includes Compliance and Advisory Reviews	

WirginiaTech
Invent the Future



Exh. 2: Distribution of Direct Audit Hours

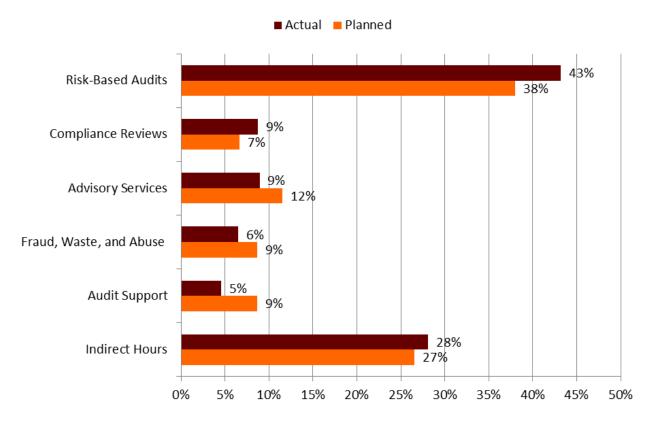
(Excludes Indirect Hours for Administration, Training, Leave, and Computer Support)







Exh. 3: FY 2015 Actual vs. Planned Hours







Management Corrective Actions (MCAs)

- Each audit recommendation and its associated MCA is rated high, medium, or low priority
- A primary objective of this classification is to drive a greater sense of urgency in completing the corrective action and completion of audit follow-up
- The Finance and Audit Committee receives the higher priority recommendations and associated MCAs



Exh. 5: Inventory of MCAs

Beginning # of MCAs	53
MCAs added	96
MCAs closed	<u>110</u>
Current open inventory of MCAs	39





Recommendations for Containing Costs

- Facilities Work Order System Blended labor rates charged to customer-funded work orders exceeded the cost of the actual labor, resulting in a variance of approximately \$197,000
- Differential Tuition and Program Fees \$157,000 of tuition remission from overhead funds and \$32,000 in travel reimbursements were inappropriately provided to graduate students





Recommendations for Containing Costs

- University Building Official An additional \$55,000 could have collected from campus customers if non-capital permit billing was based on customer approved estimates, availing central budget resources for other purposes
- Civil and Environmental Engineering Elimination of redundancies resulting from data entry into two separate systems





Exh. 6: Recurring Audit Issues

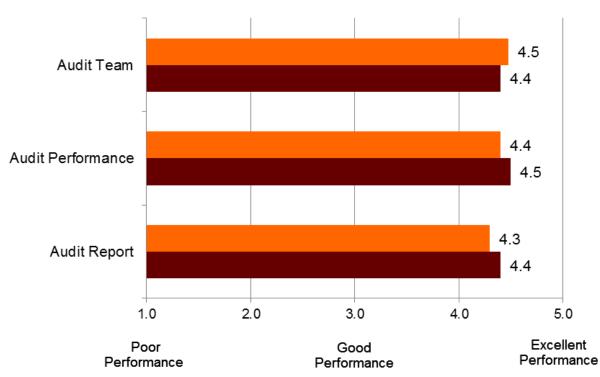
Recommendation	Occurrences
IT: Security	11
Documentation and Communication of Policies and Procedures	8
Fiscal Responsibility	5
Regulatory Non-Compliance	4
Billing and Accounts Receivable	4
Funds Handling	4
IT: Logical Access	4
Sponsored Projects Administration	4





Exh. 7: Survey Results









Survey Comments

- 18 comments from respondents
 - Overall Appreciated the audit process, the communication during the audit, or the professionalism, courtesy, and competence demonstrated by the audit team
 - 1 Recommended improvement
 - ➤ Offer pre-audit training so that clients can better prepare for upcoming reviews





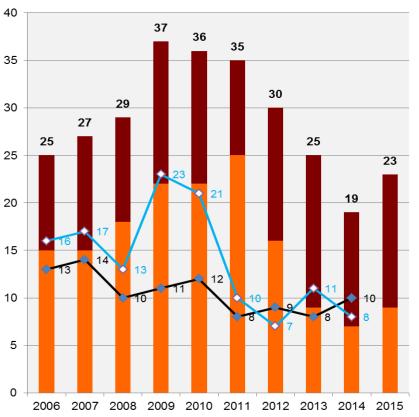
Fraud, Waste, and Abuse (FWA)

- Received 23 cases in FY 2014-15
- Closed 15 from FY 2014-15
- Closed 8 from prior years
- For the 23 completed:
 - None of the six hotline cases were substantiated
 - 8 of 17 (47%) internally reported cases were substantiated





Exh. 8: FWA Case Volume Summary



Average 36% substantiation since 2006

of Internal Cases

of Hotline Cases

→ # of Substantiated

11 cases were still active as of June 30.





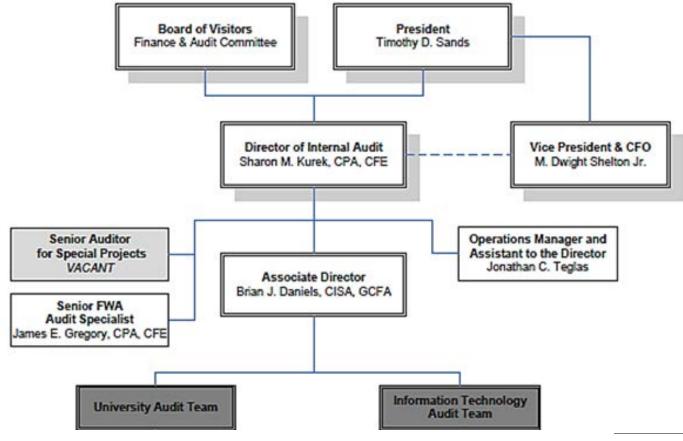
Fraud, Waste, and Abuse (FWA)

- 70% of allegations fall within five general categories:
 - Leave or time abuse
 - Improper use of university resources
 - Abuse of authority
 - Conflict of interest
 - Theft or embezzlement





Exh. 9: Organizational Chart





Internal Audit Staff Experience

- Combined 125 years of professional experience in accounting, auditing, and information technology
- Combined 50 years of service to Virginia Tech





Internal Audit Staff Achievements

- **David W. Crotts**, Senior IT Auditor, accepted a new position as Associate Director of Strategic Initiatives and Business Analysis within the university's Finance division
- Gannon T. Davis, Senior Auditor, passed part I of the Certified Internal Auditor exam
- Miranda C. Grove, Staff Auditor, completed the Research Administrator Certificate - Level 1 program
- Alisha M.J. Royal, Staff Auditor, completed the Research Administrator Certificate - Level 2 program



Exh. 10: Staff Education

	Certification and Advanced Degrees				
	Professional Certifications				
3	Certified Public Accountants (CPA)				
3	Certified Fraud Examiners (CFE)				
2	Certified Information Systems Auditor (CISA)				
1	Certified Forensics Analyst (GCFA)				
1	Certified Research Administrator (CRA)				
	Advanced Degrees				
3	Master of Business Administration (MBA)				
1	Master of Education (MEd)				
1	Master of Science, Journalism				





Exh. 11: Staff Professional Development

Types of Training	Number of CPEs
Auditing	180.5
Specialized Knowledge and Applications	97.5
Higher Education	87.5
Fraud and Investigations	58
IT Auditing	36
Critical Thinking	32
Ethics	16
Personal Development	13
IT Security	12
Management Advisory Services	8
Business Management and Organization	6
Management	3
Communication	2
Governmental Accounting	2





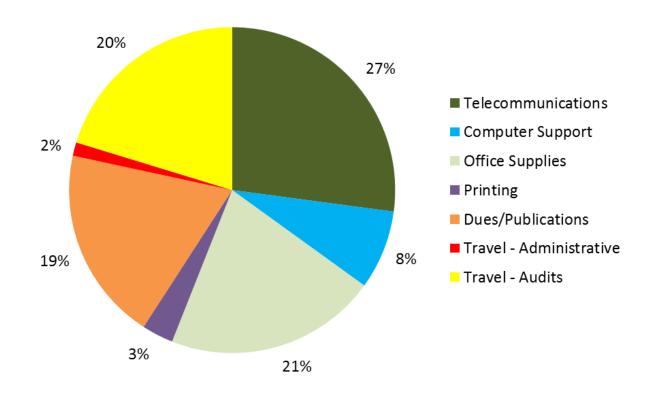
Exh. 12: Analysis of Expenditures

	FY 2013-14	FY2014-15
Salaries and Benefits	1,015,804	1,118,062
Training	44,738	45,463
Operating Expenses	29,895	33,063
Equipment	14,652	8,836
Audit Software	13,430	12,346
Leadership Development and Assessment	9,275	-
Outsourced Audit Services	4,777	-
Personnel Expenses	4,306	1,110
Total	\$1,136,879	\$1,218,880





Exh. 13: Operating Expenses





Fiscal Year 2015-16 Internal Audit Plan

FINANCE AND AUDIT COMMITTEE

August 4, 2015

Internal Audit presents the fiscal year 2015-16 audit plan to the Finance and Audit Committee for approval. Internal Audit is not necessarily expecting to be able to fully complete its ambitious plan for the year, but continually strives for productivity gains.

Internal Audit management conducted its annual risk assessment to identify the entities that should receive audit attention in fiscal year 2015-16. Senior management had the opportunity to provide input on areas for consideration in the preparation of the audit plan. Additionally, a five-year core audit plan was developed to ensure Internal Audit provides adequate coverage related to the university's critical areas. See the Proposed Five-Year Core Audit Plan on Schedule 4. The Core Audit Plan includes several multi-year audits that will allow for annual reviews of selected components of the entities with high external compliance risk and complex operations. These entities are University Scholarships and Financial Aid, Research, Human Resources, and Intercollegiate Athletics.

Internal Audit also created a university-wide information technology (IT) risk assessment and audit plan document mapped to the ISO 27002 standard, an information security standard published by the International Organization for Standardization (ISO) that is considered to be a best practice for developing and maintaining enterprise-wide IT security. Internal Audit consulted IT senior management during the development of the assessment and plan document to ensure that audit coverage was maximized and properly targeted. See the Proposed Five-Year Core Audit Plan on Schedule 5. The Core Information Technology Plan includes audits that are topical in nature and each audit will include coverage of the four high-level risk domains that were identified during the risk assessment. These domains are: student systems, finance and administrative systems, human resource systems, and research systems.

Given existing resources, an estimated 14,700 direct hours will be devoted to audits, planning and reviews (Schedule 1). Based on the risk assessment and feedback from management, the proposed audit plan (Schedule 2) includes a balance of high-, medium-, and low-risk entities and compliance reviews (Schedule 3). A description of the preliminary audit scope for projects on the fiscal year 2015-16 plan is detailed in Schedule 6. Internal Audit's goal is to complete 85 percent of the audit plan. The proposed audit plan may be modified based on the external audit environment or changes in regulations, management, or resources.

RECOMMENDATION:

That the fiscal year 2015-16 proposed audit plan be approved by the Finance and Audit Committee.

AUDIT PERSONNEL AVAILABLE HOURS FOR FISCAL YEAR 2015-16

Sources of Effort Available:	No. of Employees	Annual Hours	Total Hours	Percent Of Effort
Audit Staff *	9	2,080	17,720	88.60%
Wage Auditor	1	1,000	1,000	5.00%
Graduate Assistant / Student Worker	2	640	1,280	6.40%
Total Available - Fully Staffed	12		20,000	100.00%
* Adjusted for Existing Vacancies (2 positions for 2-3 m	onths)			
Planned Application of Effort:				
Performing Scheduled Audits		7,350		36.75%
Compliance Reviews		1,100		5.50%
Advisory Services / Management Requests		3,000		15.00%
Reviews of Alleged Fraud, Waste, and Abuse		1,500		7.50%
Annual Audit Activities (Follow-up, Inventory)		750		3.75%
Continuous Monitoring		1,000		5.00%
Total Direct Hours - Audit, Planning, and Rev	view		14,700	73.50%
Vacations, Holidays, and Sick Leave		2,800		14.00%
Training and Professional Development		700		3.50%
Administrative Tasks / System Support		1,800		9.00%
Total Indirect Hours		,	5,300	26.50%
Grand Total Hours of Effort			20,000	100.00%

AUDIT PLAN FOR FISCAL YEAR 2015-16

ENTITIES	LAST AUDIT	RISK	HOURS
Athletics NCAA – Eligibility *	2012	High	350
Construction Management	2010	High	350
Contract Administration	N/A	High	350
Controller's Office – General Accounting	2009	High	300
Crop and Soil Environmental Sciences	2008	High	350
Departmental Scholarships	2010	High	250
Electrical and Computer Engineering	2009	High	350
Human Resources: Leave Accounting *	2010	High	250
International Activities	N/A	High	350
IT: Linux Server Security	2012	High	350
IT: Network Security (RLAN, Routers, and Firewalls)	N/A	High	350
IT: Printer Security	2012	High	300
IT: Project Management	2009	High	300
Physics	2007	High	350
Real Estate Management	2014	High	300
Research: Effort Reporting *	N/A	High	350
The Inn at Virginia Tech and Skelton Conference Center	2009	High	300
University Scholarships and Financial Aid *	2013	High	300
Graduate Admissions Application System	N/A	Medium	250
Institute for Critical Technology and Applied Science (ICTAS)	2009	Medium	300
Student Engagement and Campus Life	2010	Medium	300
Building Construction / Myers-Lawson School of Construction	2004	Low	250
Center for Organizational Technological Advancement (COTA)	N/A	Low	200
Interdisciplinary Center for Applied Mathematics (ICAM) /	2003 /	Low	250
Institute for Society, Culture, and Environment (ISCE)	N/A	LOW	230
Total Hours Needed			
	Total Audits	Planned	24

^{*} Entity receives an annual audit on different components of their operation.

FIVE-YEAR COMPLIANCE REVIEW PLAN FOR FISCAL YEARS 2015-16 THROUGH FISCAL YEAR 2019-20

		Hours of Effort					
Audit Entity (Senior Management Areas)	Last Review	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	
, and a second second second							
Athletics	2013		250				
College of Agriculture and Life Sciences	2014				350		
College of Architecture and Urban Studies	2012		300				
College of Business	2015					200	
College of Engineering	2013			350			
College of Liberal Arts and Human Sciences	2013			350			
College of Natural Resources and Environment	2014				250		
College of Science	2015					250	
College of Veterinary Medicine	2013			250			
Office of the President	2011	250					
Office of the Provost	2012	350					
University Libraries	2011	250					
Vice President and Dean for Graduate Education	2014				250		
Vice President for National Capital Region	2011	250					
Vice President for Administration	2015					400	
Vice President for Advancement	2011		350				
Vice President for Finance	2012		250				
Vice President for Information Technology	2015					250	
Vice President for Outreach and International Affairs	2011		350				
Vice President for Research and Innovation	2012			300			
Vice President for Student Affairs	2014				400		
Total Budgeted	l Hours	1100	1500	1250	1250	1100	
Number of R	Number of Reviews				4	4	

NOTE: Compliance reviews include all departments reporting to the respective senior management area.

PROPOSED FIVE-YEAR CORE AUDIT PLAN FOR FISCAL YEAR 2015-16 THROUGH FISCAL YEAR 2019-20

Area	2016	2017	2018	2019	2020
Enrollment Services	Financial Aid – State and Inst. Prgms., Overaward, Student Acad. Progress	Financial Aid – Student Eligibility, Title IV Return, Quality Assur., COI, COA	Financial Aid – Federal Grants, Financial Reporting, Loans	Financial Aid – Inst. Eligibility, State and Inst. Prgms., Overaward	Financial Aid – Student Eligibility, Title IV Return, Quality Assur., COI, COA
	Dept. Scholarships	Undergrad. Admissions	University Registrar	Graduate Education	
Research	ICTAS	VTCRI	VBI	ICAT	VTTI
	ICAM / ISCE	High Performance Computing	Animal Care and Resources	OSP Project Set-Up, Billing, A/R, Close-Out	IRB for Human Subjects
	Effort Reporting	Cost Transfers	Lab Safety	PI Grant Management	OIRED
HR and Payroll	Leave Accounting	Benefits	Payroll Transactions	Compensation and Classification / Equity	Hiring and Termination
Auxiliary Enterprises/	The Inn at Virginia Tech & Skelton Conf. Center	Dining Services	Recreational Sports	Hokie Passport Services	Housing & Residence Life
Student Support	Student Engagement and Campus Life	Telecommunications (CNS)	Licensing and Trademarks	Center for the Arts	Continuing and Professional Education
	NCAA – Eligibility	Athletics – Policy Compl.	NCAA – Recruiting	Athletics – Operations	NCAA – Financial Aid
Facilities and Operations	Construction Management	Virginia Tech Police Department	Records Management	Fleet Services, Parking, & Transportation	EHS
	Real Estate Management	Emergency Preparedness	Mail Services	Printing and Copier Management Program	Facilities Operations
Finance	Controller's Office – General Accounting	Controller's Office – Fixed Assets	Controller's Office – Risk Management	Office of the University Bursar	Procurement and Accounts Payable
Academic Units	Crop and Soil Environmental Sciences	Biomechanical Engr. and Mechanics (BEAM)	Sustainable Biomaterials (SBIO)	Chemistry	Agricultural and Applied Economics
	Electrical and Computer Engineering	Geosciences	Mining and Materials Engineering	Chemical Engineering	Mechanical Engineering
	Physics	Biochemistry	Biological Systems Engr.	Horticulture	Mathematics
	Building Const. / Myers- Lawson School of Const.	Entomology	School of Public and International Affairs	Industrial and Systems Engineering	Dairy Science
Off-Campus Locations	International Activities	Commonwealth Campus Centers	VCE – Northern District	Eastern Shore / Virginia Seafood ARECs	VCE – Central District

PROPOSED FIVE-YEAR CORE INFORMATION TECHNOLOGY AUDIT PLAN FOR FISCAL YEAR 2015-16 THROUGH FISCAL YEAR 2019-20

								. Coverag						
Year Audit	Risk	Assessment sect	July Policy 155	Ass.	Harage rice	nt Pesource	security sical and train	Received to the second	Openius Openius Openius Openius	Development Stion System	Acquisitor Continues Conti	hance likely heide	nt than take the rit	<u> </u>
2016 Project Management	√		<u> </u>				√		√				ſ	
2016 Network (RLAN, Routers, and Firewalls)		√				✓	√	√	✓					
2016 Printer Security						✓	✓	✓					1	
2016 Linux Server Security						√		✓		✓			1	
2017 Advancement System		✓					✓	✓					1	
2017 COOP Review	✓		✓	✓			✓			✓	✓		1	
2017 General Controls Review			✓			✓	✓					✓	1	
2017 Surplus Property							✓						1	
2018 Disaster Recovery	✓		✓	✓			✓			✓	✓		1	
2018 External Interfaces and Wire Transfers						✓			✓				İ	
2018 Mobile Device Security				✓		✓	✓	✓						
2018 Outsourced Cloud Services							✓		✓	✓				
2019 Banner Applications		✓					✓	✓		✓				
2019 Windows Server Security						✓		✓						
2019 PCI Compliance									✓					
2019 Wireless Security							✓	✓	✓					
2020 Oracle Database			✓						✓					
2020 FERPA			✓				✓					✓		
2020 Employee Access Life Cycle			✓		✓									
2020 IT Security Incident Response				✓	✓		✓		✓	✓	✓			

Note: Audits will include coverage of all critical or sensitive risk domains (Student, Finance, Human Resources, and Research) of the university.

IT Audits that will include decentralized scope coverage across campus

The description of the preliminary audit scope for projects on the fiscal year 2015-16 audit plan is detailed below. However, the preliminary scope is subject to change as the audit objectives are based on identified business goals and objectives, potential risks, and processes designed to mitigate those risks during the audit planning process. The annual expenditures and revenues referenced below reflect fiscal year 2013-14 data unless otherwise noted.

Reviews of Colleges, Schools, and Departments

The objective of these audits is to assure sound business practices are in place and processes comply with university policies. These reviews will focus on the unit's business objectives and will evaluate controls and business risks. Tests of records may include core business functions such as contract and grant administration, service centers, health and safety, facility security, conflict of interest, and systems and network security as applicable, to determine if processes effectively manage risks, safeguard assets, and comply with policies.

Building Construction and the Myers-Lawson School of Construction

The Department of Building Construction focuses on the development of a critical understanding of construction means and methods as well as management processes. Two distinct concentrations seek to develop a student's knowledge in the areas of construction and design, and development in real estate and construction. The Myers-Lawson School of Construction provides undergraduates and graduates more choices for pursuing construction education. The school works with faculty from multiple departments to provide students with additional opportunities to pursue concentrations, minors, or support courses related to construction. Faculty is comprised of Principal Faculty, Core Faculty with tenure lines in their respective departments, and Affiliated Faculty from related academic disciplines. Combined expenditures for the school and department exceeded \$2.8 million, with sponsored research totaling just over \$700,000. These entities were last audited as part of a college-wide review in 2004.

Crop and Soil Environmental Sciences

For more than 105 years, the Department of Crop and Soil Environmental Sciences has served the citizens of the Commonwealth of Virginia with knowledge and practice for sustainable crop production and land management. The department employs 22 tenured and tenure-track faculty members on the Blacksburg campus and six faculty members located at research and extension centers throughout Virginia. Of the approximately 300 students enrolled, more than 240 are in two undergraduate degree programs: Environmental Science, and Crop and Soil Science. Total expenditures for the department were \$10.8 million, with sponsored research totaling nearly \$4.5 million, a figure that represents 29 percent growth since 2010. Research activities are focused in three domains: Agronomy; Crop Improvement, Breeding, and Genomics; and Environmental Science. This department was last audited as part of a college-wide review in 2008.

Electrical and Computer Engineering

The Bradley Department of Electrical and Computer Engineering (ECE) at Virginia Tech is one of the country's larger ECE departments. ECE offers bachelor, masters, and doctoral degrees in electrical and computer engineering with education and research opportunities in diverse areas including control systems, computers, communications, electronics, electromagnetics, and power. Beyond its main presence in Blacksburg, the department has research and teaching facilities in Arlington, Falls Church, and Hampton. Expenditures for the department totaled nearly \$37.5 million, with sponsored research totaling approximately \$18.6 million, a figure that represents 43 percent growth since 2010. ECE was last audited as part of a college-wide review in 2009.

Physics

The Department of Physics (Physics) offers bachelor, masters, and doctoral degrees in physics, applied physics, industrial physics, and nuclear science and engineering, among others. Faculty members within the department have been recognized nationally and internationally, for research in areas of particle and nuclear physics, condensed matter physics, and biophysics and astrophysics. Physics operates several research centers and institutes located in Blacksburg as well as in Roanoke and Arlington. Expenditures for the department exceeded \$10.8 million, with sponsored research totaling \$3 million. Physics was last audited as part of a college-wide review in 2007.

Athletics NCAA - Eligibility

Virginia Tech sponsors 22 varsity sports at the NCAA Division I level, comprised of 11 men's sports and 11 women's sports, including Women's Golf which will begin competition in fall of 2015. The Department of Athletics (Athletics) monitors more than 550 student-athletes each academic year. Athletics had operating revenues of approximately \$73.1 million and total operating expenses of approximately \$69.6 million. Student-athletes are awarded aid in accordance with NCAA, Atlantic Coast Conference, and university rules and regulations. Internal Audit conducts a complete audit of Athletics over a five-year period. This audit will include reviews of eligibility, academic performance program, amateurism, rules education, and coaching staff limits and contracts. The last audit of these specific NCAA activities was in 2012.

Center for Organizational Technological Advancement (COTA)

Virginia Tech established COTA in 1994 to foster best practices and innovation in business, industry, K-12 and post-secondary education, government, and nonprofit. COTA offers an Environmental Management Systems program to address the needs of a broad range of interested parties and the evolving needs of society for environmental protection, as well as a Virginia School Leaders Institute (VSLI). VSLI is designed specifically for recently appointed school administrators and aspiring superintendents. COTA also provides grants that typically range from \$500 to \$2,000 to support development and conferences at Hotel Roanoke and Conference Center. COTA

handled approximately \$400,000 in cash receipts. This area has not previously been reviewed.

Construction Management

Management of construction projects at the university is primarily overseen by the University Design and Construction (UDC) unit within the Facilities Department. UDC provides oversight for both new construction and renovation projects valued at over \$2 million, which are defined as capital projects. This unit provides critical services to the university and oversees project managers who supervise construction projects from beginning to end, ensuring completion within time and budgetary constraints. Active capital projects are currently valued at more than \$400 million. UDC expenditures totaled \$91.7 million. Since this activity was last reviewed in 2010, leadership changes have occurred and responsibilities have been modified due to outsourcing the renovations function.

Contract Administration

Contract administration encompasses creating, executing, analyzing, monitoring, and terminating agreements to maximize operational and financial performance, all while reducing financial risk. The university routinely executes significant contracts with various providers of goods and services. Although University Legal Counsel must review all contracts prior to execution, some additional positions are granted signature authority for contractual agreements. Entities likely involved in this review will include: the Vice President for Finance and Chief Financial Officer, who by policy serves as the university's Chief Contracting Officer; University Legal Counsel; the Procurement Department; the Information Technology Acquisitions (ITA) Department; the university's Contract Review Officer; and others. This activity has not previously received a targeted review.

Controller's Office - General Accounting

The General Accounting section of the Controller's Office supports the Banner Finance help line and provides training for new employees in the areas of Banner Finance navigation, general accounting query, and finance web reporting. The section also performs audits of departmental journal entry transfers and is responsible for Banner Finance daily batch updating, month-end close, and year-end close. The General Accounting section of the Controller's Office is responsible for reconciling the university's bank accounts, reconciling the Banner Finance system to the state's accounting system, and various other reconciliations. This area was last reviewed in 2009.

Departmental Scholarships

Scholarship administration at Virginia Tech is highly decentralized with the principal administrative responsibility primarily delegated to the college and department level. Funding sources for departmental scholarships includes endowments as well as annual/operating funds. University Scholarships and Financial Aid (USFA) acts as an agent to deliver scholarship proceeds to students. University departments provided or

monitored approximately \$8.8 million in student financial assistance in the form of departmental scholarships in fiscal year 2013-14 and planned to award approximately \$8.6 million in fiscal year 2014-15. The topic was last audited in 2010.

Graduate Admission Application System

In 2013, the Graduate School commissioned the development of a web-based graduate admissions system that allows for greater control of the overall admissions process. The Graduate School receives approximately 9,000 applications annually, and each of these applications and the associated fees are processed through this system. There has been no dedicated audit of this system.

Human Resources: Leave Accounting

The Leave Accounting unit in Human Resources provides advice, guidance, counseling, and training on leave policies and procedures for approximately 7,300 faculty and staff. Leave Accounting processes leave transactions and provides customer service assistance to employees and departmental leave representatives in response to inquiries, leave corrections, and leave adjustments. The Leave Programs Supervisor provides training for departmental leave representatives. A new leave reporting tool for salaried employees will be phased in between July 2015 and January 2016. The system will replace the current Leave Entry and Reporting Web System, which was launched in 1998 and requires electronic entry and paper submission. The new system will allow departments to enter and submit leave reports electronically. The last audit of this activity was in 2010.

Institute for Critical Technologies and Applied Science (ICTAS)

ICTAS is an interdisciplinary research investment institute that stimulates, catalyzes, and promotes the growth of cutting-edge research in engineering, science, and medicine. ICTAS invests in research directly through seed project funding; purchase, installation, and maintenance of specialized equipment; state-of-the-art laboratories; new faculty recruitment and hiring; graduate student support; matching funds for research proposals; and specialized space for research. A host of research units function under the auspices of ICTAS including the Macromolecules and Interfaces Institute (expenditures of \$1 million) and the Ted and Karyn Hume Center for National Security and Technology (expenditures of \$6 million). Additionally, ICTAS, reporting to the Vice President for Research and Innovation, had expenditures of almost \$10.3 million. The last audit of this area was in 2009.

Interdisciplinary Center for Applied Mathematics (ICAM) and Institute for Society, Culture, and Environment (ISCE)

ICAM was formed in 1987 to promote and facilitate interdisciplinary research and education in applied mathematics. ICAM reports to the Vice President for Research and Innovation and had expenditures of approximately \$277,000. ISCE supports targeted creative, interactive, multi-, and interdisciplinary research endeavors involving the social sciences, humanities, and the arts. Research extends from public policy to personal identity and including explorations of race, ethnicity, class, and gender. ISCE,

also reporting to the Vice President for Research and Innovation, had expenditures of approximately \$543,000. ICAM was previously audited in 2003, but ISCE has not received a dedicated review.

International Activities

The university's emphasis on efforts to further develop its global presence presents distinct opportunities and challenges. The review will focus primarily on Virginia Tech's Steger Center for International Scholarship (formerly known as CESA) along with other academic and education abroad activities. The Steger Center is the university's European campus center, and base for operations and support of its programs in the region. A wide variety of semester-long and summer study abroad programs provide diverse learning experiences for undergraduate and graduate students. While many of the Steger Center programs are tailored for the educational and research development of Virginia Tech faculty members and students, another important focus is collaboration with nearby institutions to arrange faculty and student exchanges. This activity has not previously received a targeted review.

IT-Linux Servers

There are numerous servers in use at Virginia Tech supporting everything from sensitive research to central systems. While a significant number of servers at Virginia Tech operate in the more popular Windows environment, there are still many servers operating in a Linux environment. These servers require specialized administration and may have unique security challenges. This audit will focus on security across the enterprise by selecting servers in various administrative and academic departments. The last audit of this topic was in 2012.

IT-Network Security (RLAN, Routers, and Firewalls)

Virginia Tech provides an extensive telecommunications and data network that accommodates tens of thousands of registered users connecting work and personal devices through wired, Wi-Fi, and virtual private network connections. Additionally, the university operates a Restricted/Limited Access Network (RLAN), which provides employees who work with personally identifying information additional layers of protection for network and computing environments. This audit will assess the network security architecture. There has been no dedicated audit of network security, although various components, including Wi-Fi security, have been reviewed previously.

IT-Printer Security

There are numerous printers in use within the university's administrative and academic units. These printers can have highly sensitive responsibilities including printing checks, transcripts, and completed tax forms. Sensitive communication involving senior administration, University Legal Counsel, and Human Resources can be printed regularly as well. This is of particular concern in that the printers themselves continue to become more complex with their own hard drives and operating systems in use, yet are rarely secured with the same level of detail that servers or personal computers endure. Additionally, printing devices have become more and more complex with the

routine inclusion of scanning and digital sending capabilities. This audit will focus on physical and logical security of printers across the enterprise by selecting varying devices for review in multiple functional areas based on risk. The last audit of this topic was in 2012.

IT-Project Management

The project management process incorporates a practical framework for steering a project from concept through completion. Utilization of, and adherence to, a framework for project management helps to ensure projects are delivered on time, within budget, and aligned with established deliverables. The Virginia Tech Standard for Information Technology Project Management (Standard) was designed to promote best practices of the nationally recognized Project Management Institute. This audit will focus on the design and application of the Standard in the project management process. IT project management was last audited as a part of a Communications and Network Services audit in 2009.

Real Estate Management

Real Estate Management provides assistance to the university community in the areas of leasing and property management of real estate, property acquisitions, transfers, sales, real estate easements and rights-of-way, and disposal and demolition of surplus buildings. Real Estate Management also serves as the repository of all university deeds, leases, and other real estate documents, including facility use agreements. The unit manages in excess of 200 payable leases and facility use agreements with planned expenditures estimated at \$30.4 million for fiscal year 2015-16. Additionally, the unit is responsible for overseeing nearly 30 income leases and facility use agreements, with anticipated revenues of approximately \$1.1 million in fiscal year 2015-16. The unit was last audited in 2014, and results of that review have led to an accelerated timeline to revisit the area.

Research: Effort Reporting

The university receives significant funding for sponsored projects from federal and state agencies, private foundations, organizations, and industry. Effort reports (Personnel Activity Reports) are distributed to employees who work on these projects to document the allocation between direct and indirect activities equivalent to the level of effort benefitting these projects. Effort certification verifies these funds are properly expended to comply with regulatory requirements. Each college, department, or organizational unit is responsible for ensuring Personnel Activity Reports are completed and submitted in a timely manner. This review will cover effort reporting for research expenditures totaling \$288 million. No dedicated audit of this topic has been completed previously.

Student Engagement and Campus Life

Student Engagement and Campus Life, a unit within the Division of Student Affairs at Virginia Tech, complements the academic program by providing a variety of activities, educational opportunities, programs, facilities, and services that enhance student development and enrich the quality of campus life. The university has three student

centers: Squires Student Center, the Graduate Life Center at Donaldson Brown, and Johnston Student Center. Previously known as Student Centers and Activities, the unit had operating revenues of approximately \$12.3 million and total operating expenses of \$12.4 million. This unit was last audited as part of the University Unions and Student Activities review in 2010.

The Inn at Virginia Tech and Skelton Conference Center

The Inn at Virginia Tech and Skelton Conference Center (the Inn) offers nearly 24,000 square feet of conference space, including a 700-seat ballroom, 10 conference rooms, and 147 hotel rooms and suites. In addition to the hotel and conference facilities, the Inn also boasts a full-service restaurant and lounge. Benchmark Hospitality International, a Texas-based luxury hotel and resort company, assumed management of the facility in January 2011. The Inn had \$10.9 million in revenue and \$8.4 million in cash receipts. This unit was last audited in 2009.

University Scholarships and Financial Aid

The Office of University Scholarships and Financial Aid (USFA) is part of the Enrollment and Degree Management area. USFA supports the university's student access, enrollment, and retention goals by providing the financial means to encourage economic, social, cultural, and academic diversity in the student body. USFA provided or monitored approximately \$440 million in student financial assistance in fiscal year 2013-14. A complete audit of USFA is performed over a four-year period. This review will include state and institutional programs and overawards. The last audit of this activity was in 2013.

Compliance Reviews

Internal Audit will continue its program of limited scope reviews of senior management areas. These surveys review major aspects of a department's administrative processes using internal control questionnaires and limited testing that provides broad audit coverage ensuring compliance with university policies on campus.

Review and Acceptance of Internal Audit Reports Issued

FINANCE AND AUDIT COMMITTEE

August 4, 2015

Background

In concurrence with the fiscal year 2014-15 Internal Audit Plan approved by the Finance and Audit Committee at the September 15, 2014 Board of Visitors meeting, the department has completed eight risk-based audits and two compliance reviews during this reporting period. This report provides a summary of the ratings issued during the period and the rating system definitions. With the submission of these 10 reports, Internal Audit has completed 88 percent of the annual audit plan. The remaining four projects are underway and will be presented at the next Board of Visitors meeting.

Ratings Issued This Period

Athletics NCAA Compliance	Improvements are Recommended
Environmental Health and Safety	Improvements are Recommended
FERPA and HIPAA Compliance	Improvements are Recommended
Office of Export and Secure Research Compliance	Effective
Research: Cost Sharing	Effective
University Scholarships and Financial Aid	Effective
Differential Tuition and Program Fees	Improvements are Recommended
Virginia Cooperative Extension Southeast District Southeast District	Improvements are Recommended
College of Science	Significant Improvements are Needed
Vice President for Information Technology	Improvements are Recommended

Summary of Audit Ratings

Internal Audit's rating system has four tiers from which to assess the controls designed by management to reduce exposures to risk in the area being audited. The auditor can use professional judgment in constructing the exact wording of the assessment in order to capture varying degrees of deficiency or significance.

1

Presentation Date: August 31, 2015

Definitions of each assessment option

Effective – The audit identified opportunities for improvement in the internal control structure, but business risks are adequately controlled in most cases.

Improvements are Recommended – The audit identified occasional or isolated business risks that were not adequately or consistently controlled.

Significant or Immediate Improvements are Needed – The audit identified several control weaknesses that have caused, or are likely to cause, material errors, omissions, or irregularities to go undetected. The weaknesses are of such magnitude that senior management should undertake immediate corrective actions to mitigate the associated business risk and possible damages to the organization.

Unreliable – The audit identified numerous significant business risks for which management has not designed or consistently applied controls prior to the audit. Persistent and pervasive control weaknesses have caused or could cause significant errors, omissions, or irregularities to go undetected. The weaknesses are of such magnitude that senior management must undertake immediate corrective actions to bring the situation under control and avoid (additional) damages to the organization.

RECOMMENDATION:

That the internal audit report reviewed above be accepted by the Finance and Audit Committee.

Report on JLARC Recommendations to be Addressed by the Board of Visitors FINANCE AND AUDIT COMMITTEE

June 2015

The 2012 General Assembly directed the Joint Legislative Audit and Review Commission (JLARC) to conduct a study on cost efficiency of public higher education institutions in Virginia and to identify opportunities to reduce the cost of public higher education in Virginia. The House Joint resolution that directed JLARC to conduct the study identified 14 areas to consider in its study including both academic and non-academic factors that affect the cost of higher education operations. The study was conducted over a period of two years and was completed on November 30, 2014. JLARC issued a total of five reports during the course of the study. The university has provided highlights from the all reports at prior meetings. The fifth and final report titled "Addressing the Cost of Public Higher Education in Virginia" was issued on November 10, 2014.

JLARC issued a total of 32 recommendations and seven policy options in the five reports. Subsequent to the issuance of the fifth report, the Council of Presidents (COP) convened a meeting and created a subcommittee to develop unified higher education institutional positions on the JLARC recommendations. The subcommittee asked the finance officers from the higher education institutions to review the recommendations and propose a collective position for each of the recommendations for consideration by the COP.

The COP adopted the institutional position recommendations proposed by the finance officers. The recommendations were divided into two categories:

- Recommendations that could be implemented promptly, as determined by management: Of the 32 recommendations, the COP agreed that 17 recommendations could be implemented promptly, if the action was deemed appropriate by management. Examples of such recommendations include: a) disclosure and enhanced transparency of various fees assigned to students, b) institutional review of organizational structure, and c) standardized purchases of commonly procured goods, implementation of cooperative procurement, etc.
- Recommendations requiring further discussion and analysis to assess the ease or complexity of implementation and the impact on the diverse missions of Virginia public institutions. Examples of such recommendations include benchmarking of discipline-level faculty salary averages, imposing limitation on tuition and fee increases, etc.

General Assembly Actions

Prior to the start of the General Assembly session, the House of Delegates established a Higher Education Advisory Group to look at various higher education issues, including the JLARC reports. Upon request from the Advisory Group, the COP submitted the unified higher education institutional position paper to the General Assembly along with the finance officers' recommendations.

The approved budget passed by the General Assembly included language recommending implementation of a subset of the 17 JLARC recommendations listed by the financial officers as items that could be addressed in the short-term. The budget language included seven items for which the General Assembly believed should be addressed by the Board of Visitors, to the extent practicable. This report provides an update on the university's progress on the seven recommendations.

Institutional Actions on the Seven Recommendations by General Assembly

- 1. Require their institutions to clearly list the amount of the athletic fee on their website's tuition and fees information page. The page should include a link to the State Council of Higher Education for Virginia's tuition and fee information. The boards should consider requiring institutions to list the major components of all mandatory fees, including the portion attributable to athletics, on a separate page attached to student invoices;
 - Virginia Tech currently complies with JLARC's recommendation to list all comprehensive fee components on the website and student invoices, including athletic fee, and was held up by JLARC as an example that other institutions could emulate, noting:
 - "An exception to this lack of transparency is VT; the Bursar's Office provides a detailed listing of mandatory fees on its website. The university also itemizes each fee on student invoices, as opposed to charging one line for a "comprehensive fee."
 - Virginia Tech has reviewed and updated the description of Comprehensive Fee components on the institutional website to assure continuous improvement in clarity, detail, and information provided to students; the update process included participation and input from student representatives.
 - The university is currently exploring on how best to provide a link to SCHEV's tuition and fee information.
- 2 . Assess the feasibility and impact of raising additional revenue through campus recreation and fitness enterprises to reduce reliance on mandatory student fees. The assessments should address the feasibility and impact of raising additional revenue through charging for specialized programs and services, expanding membership, and/or charging all users of recreation facilities;

Virginia Tech is in the process of evaluating our current campus recreation and fitness enterprise for additional revenue generation opportunities. The status of our current assessment indicates:

 Virginia Tech is very sensitive to mandatory student fees while seeking to meet student expectations for facilities and programs. The university has the lowest comprehensive fee of the Virginia public institutions; however, the university continuously looks for alternative revenue strategies.

- Recreational Sports revenue is generated from several sources, including the Recreational Sports Fee, which is assessed to all students as part of the comprehensive fee.
- The university has previously established specific, optional fees for certain recreation and fitness activities. The Recreational Sports auxiliary annually evaluates these optional fees charged for specialized programs and services. Optional charges for group exercise, personal training, swim lessons, gymnastics lessons, and wellness programs have been increased to support the operations of the Recreational Sports auxiliary. In addition, new programs such as youth fitness classes and instructional dance classes have been introduced to increase revenues.
- The current recreation facilities were designed to meet the needs of the student body. The effective use of the space provides limited opportunities for the university to expand the use of the facility to outside groups.
- As the university considers potential revenue opportunities, the university must consider its public mission, the feasibility and appropriateness of charges, viability of potential business activities, the nature of proposed activities relative to tax-exempt financed activities, capacity for expansion, and its rural location. Due to the rural nature of Blacksburg, Virginia Tech is sensitive to this recommendation's potential impact on the local business community. Expanding membership to university recreation facilities to the general public could adversely impact area fitness centers.
- 3. Direct staff to perform a comprehensive review of the institution's organizational structure, including an analysis of spans of control and a review of staff activities and workload, and identify opportunities to streamline the organizational structure. Boards should further direct staff to implement the recommendations of the review to streamline their organizational structures where possible;
 - Virginia Tech is establishing a cross-functional team to evaluate the current status of organizational structure, data availability, collection, and assessment, and review of existing span of control studies, etc. Based on the results of the assessment, a recommended course of action and an implementation plan that meets the intent of this recommendation will be presented for consideration by the Board.
- 4. Require periodic reports on average and median spans of control and the number of supervisors with six or fewer direct reports;

- Virginia Tech currently provides scorecard metrics on multiple academic and administrative measures. While the university recognizes the value in initial reporting of this information, the university will work with the Board members to evaluate if additional measures related to average and median spans of control should be an ongoing reporting metric.
- 5. Direct staff to revise human resource policies to eliminate unnecessary supervisory positions by developing standards that establish and promote broader spans of control. The new policies and standards should (i) set an overall target span of control for the institution, (ii) set a minimum number of direct reports per supervisor, with guidelines for exceptions, (iii) define the circumstances that necessitate the use of a supervisory position, (iv) prohibit the establishment of supervisory positions for the purpose of recruiting or retaining employees, and (v) establish a periodic review of departments where spans of control are unusually narrow;
 - Based upon the results of the university assessment on Recommendation #3 above, the university will evaluate if revisions to human resources policies are necessary.
- 6. Direct institution staff to set and enforce policies to maximize standardization of purchases of commonly procured goods, including use of institution-wide contracts;
 - Virginia Tech is conducting an assessment of our procurement policies and practices for strategic sourcing, current utilization of contracts, opportunities for improvement, and impact on the local vendors and utilization of small, women-, and minority-owned vendors.
 - An element of this assessment will be an evaluation of the current and potential future impact of the work by the Virginia Cooperative Procurement Consortium. This consortium was established recently through the joint efforts of several Virginia public institutions of higher education, including Virginia Tech, to negotiate and execute contracts for goods and services commonly purchased by all higher education entities to maximize savings that would benefit all institutions within the Commonwealth.
 - Management believes these two actions will address the intent of the recommendations, and management will review the results of this work with the Board for concurrence or quidance on any addition needed actions.
- 7. Consider directing institution staff to provide an annual report on all institutional purchases, including small purchases, which are exceptions to the institutional policies for standardizing purchases.
 - Virginia Tech currently provides scorecard metrics on multiple academic and administrative measures. While the university recognizes the value in initial reporting of this information, the university will work with the Board members to evaluate if additional measures regarding exceptions to institutional policies relating to purchasing should be an ongoing reporting metric.





Financial Performance Report Fourth Quarter 2014-15

Tim Hodge, Assistant Vice President for Budget and Financial Planning

August 31, 2015



Overview

- The university continuously monitors financial performance
- Each quarter the university provides the Board with an update on financial performance
- The annual budget represents the university's projection of operations
 - The original budget is as reviewed with the Board in June
 - The adjusted budget is revised as new information becomes available





E&G Operating Budget

Annual Budget Change

- University Division
 - General Fund reductions in Agency 208:
 - Virginia Information Technologies Agency usage (\$23,446)
 - Statewide reduction in motor vehicle fuel (\$28,810)

Performance

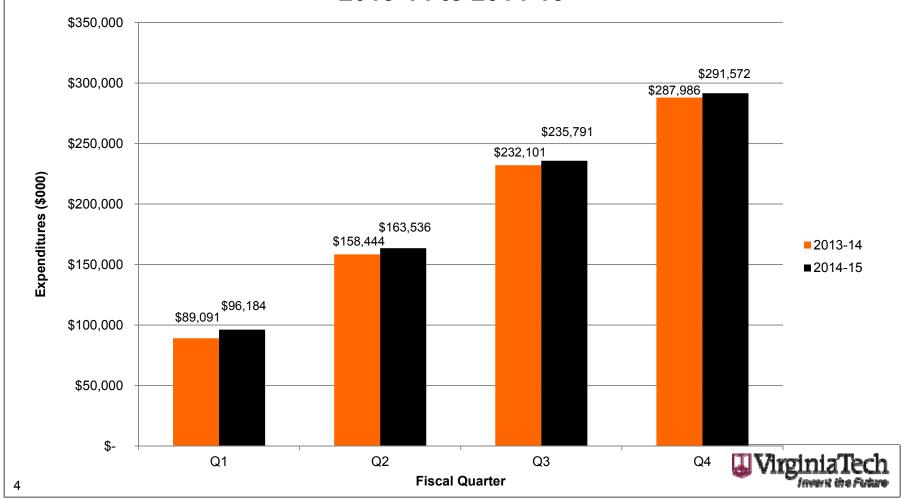
- University Division
 - Achieved annual revenue budget; expenditures on target
- Cooperative Extension/Agricultural Experiment Station (CE/AES)
 - Improvement in collection of Federal funds in Agency 229

Successfully closed fiscal year: E&G funds were fully utilized

 Unexpended balance in E&G due to timing of activities within Continuing Education and Federal Funds



Sponsored Programs Expenditures 2013-14 to 2014-15





Auxiliary Enterprises

Annual Budget Changes:

- Residential & Dining: \$3.3 million increase for Residential Wireless
- Transportation: \$2.8 million increase to finance airport hangar

Performance

- Revenues: Achieved overall budget
- Expenses: Temporary year end savings due to timing of projects and payments in process (carryover):
 - Residential & Dining \$5.3M facility related projects
 - Other Projects In Progress: \$3M (Athletics, Electric Service, Telecom, etc.)
- Overall: Units finished the year in good financial position





Capital Outlay

- Total capital program level currently authorized
 - \$656.8 million over several years
- Cumulative program expenses
 - \$444.7 million inception-to-date
- Significant total program adjustments
 - Projects approved at the June 2015 Board meeting and added to the report:
 - Electric Substation Expansion
 - Construction for Health Center Improvements





Capital Outlay

- Annual capital budget as of fourth quarter
 - \$105.9 million
- Annual budget adjustments this quarter
 - No significant annual budget adjustments this quarter.
- Annual expenses as of fourth quarter
 - \$91.2 million



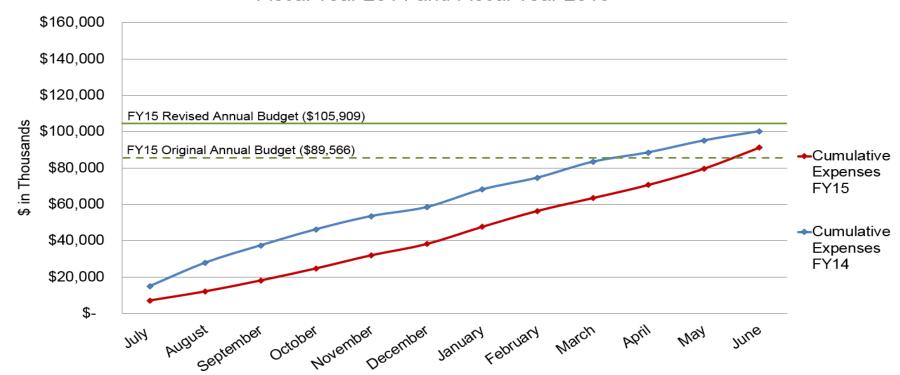


Capital Outlay Trends: Annual Performance

CAPITAL PROGRAM ANNUAL PERFORMANCE

<u>Cumulative Monthly Expenditures</u>

Fiscal Year 2014 and Fiscal Year 2015







Capital Outlay

- Major Construction Underway
 - Classroom Building
 - Fire Alarm Systems and Access
 - South Recreation Field Surface Replacement
 - Upper Quad Residential Facilities



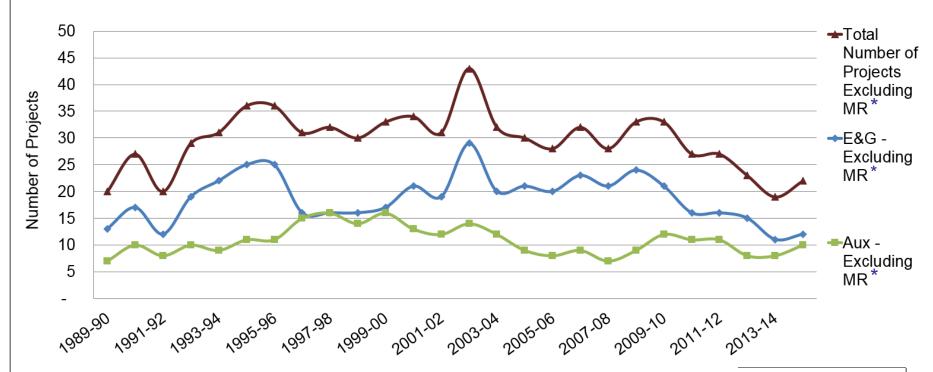


Capital Outlay Trends: Projects

CAPITAL PROGRAM PROJECTS

<u>Total Number of Active Capital Projects</u>

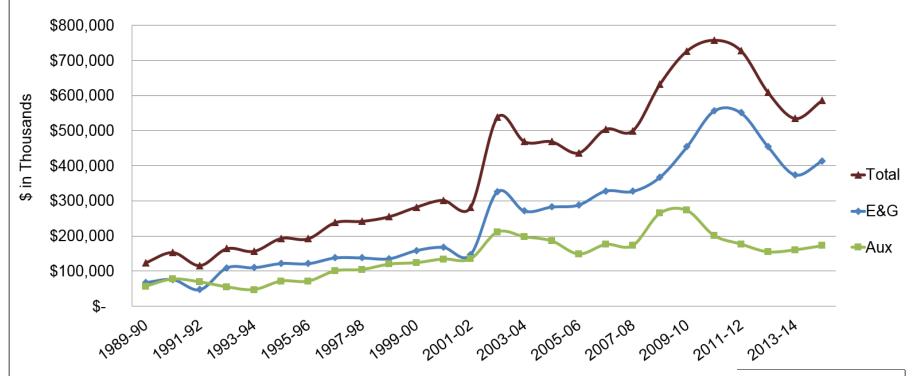
Fiscal Year 1990 - Fiscal Year 2015





Capital Outlay Trends: Total Budget

CAPITAL PROGRAM TOTAL BUDGET Total Budget Level of Active Projects Fiscal Year 1990 - Fiscal Year 2015





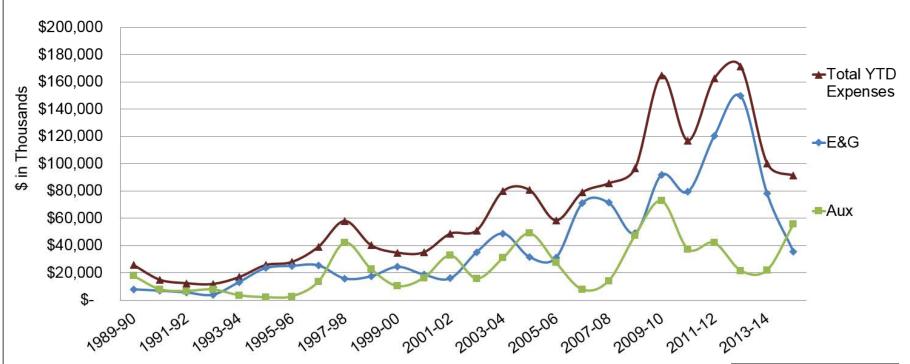


Capital Outlay Trends: Expenses

CAPITAL PROGRAM EXPENDITURE TREND

<u>Total Annual Expenditures for Active Capital Projects</u>

Fiscal Year 1990 - Fiscal Year 2015







Questions?



2016-18 Biennium Potential State Budget Initiatives

FINANCE AND AUDIT COMMITTEE

August 13, 2015

State Budget Process

The commonwealth develops its budgets on a biennial basis, and the next biennial budget will cover the period of July 1, 2016 through June 30, 2018. The budget development process for state agencies and higher education institutions occurs in the summer and fall of the year preceding the start of the biennium.

In preparation for the 2016 General Assembly session and the 2016-18 biennial budget development process, the university develops budget requests for consideration by the Governor in the Executive Budget proposal. The Department of Planning and Budget (DPB) establishes the guidelines that state agencies utilize to submit requests, called "Decision Packages" to the administration. The Governor will present the Executive Budget to the General Assembly on December 17, 2015.

Instructions on the development process have not yet been received and are not expected until August (subsequent to the report preparation date). At the state level, considerations impacting this process include the August forecast of state revenues, the national economic environment, and the recommendations of the State Council of Higher Education for Virginia (SCHEV) on issues including funding recommendations as framed by the Higher Education Opportunity Act of 2011.

For the university, the process of developing requests for the Executive Budget proposal for 2016-18 is well underway. While the university has not yet received instructions for the submission of institutional initiatives for 2016-18, work is progressing based on the assumption that the submission guidelines and process will be similar to prior biennia. The submission will be based upon the institution's Six-Year plan, the assumptions for which were reviewed by the Board of Visitors in June, and submitted to SCHEV in July for review and discussion. Assuming that the process for submission of budget requests will be similar to recent years' submissions, the university anticipates submitting several adjustments through the operating budget development process, including the following categories:

- New initiatives
- Mandates
- · Prior commitments and critical needs
- Technical adjustments
- Cost adjustments

Potential Budget Request for the 2016-18 Biennial Budget

Consistent with this guidance and prior practice, the university has developed a list of potential state budget requests. These requests are designed to advance the vision of the university's long range plan and are consistent with the initiatives included in the Six-Year operating plan, submitted to the state in July, 2015. Because the submission for 2016-18 is expected to be due in September, work is already underway to prepare the individual proposals. It is the university's

practice to share these potential budget requests with the board to obtain concurrence with the proposed budget strategies for the Executive Budget development and the General Assembly Session.

Several important statewide issues are traditionally addressed centrally and are not included in Virginia Tech's list of requests. The issues that are normally coordinated at a system level by SCHEV and DPB include the following: faculty and staff salaries, base budget adequacy, equipment trust fund, maintenance reserve, operation & maintenance of new facilities, and student financial assistance.

These proposed initiatives are expected to meet the criteria for submission to the Executive Budget. However, the final budget request submission will be modified as necessary to consider guidance from the state Department of Planning and Budget. The university may elect to submit all or some of these initiatives as Decision Packages for consideration in the Executive Budget process or as amendments during the 2016 General Assembly session. If any material additions are made to the requests because of new opportunities or state guidance, these changes would be reviewed subsequently with the Board of Visitors. A brief description of each of the initiatives follows.

Operating Initiatives — University Division

- 1. Advance Strategic Research Opportunities and Enhance Entrepreneurial and Innovation Ecosystem: The university is advancing transdisciplinary knowledge in areas such as neuroscience, water, energy, cybersecurity, connected and autonomous transportation, big data, resiliency and nanoscience, and the high-performance computing infrastructure and capabilities to support computational analysis across the research spectrum. With the continued support of the commonwealth, we will work to increase our research activities supporting discovery and economic development for the state. State support is critical for developing the necessary infrastructure to compete for and secure external funding for research that leads to economic diversification and development opportunities across the commonwealth. As the state's largest research institution, Virginia Tech is positioned to provide the maximum return on state investment.
- 2. Increase Access for Virginia Undergraduate Residents: The university has grown enrollment of resident undergraduates by over 2,400 students since 2004. Despite this growth, demand continues to outpace the university's ability to provide access to highly qualified Virginia students. A record of almost 22,500 students applied to be in the university's fall 2015 class. Demand is broad-based and impacts every college on campus. New and growing STEM-H degree offerings such as neuroscience, computational modeling, and data analytics provide an opportunity to leverage the university's expertise to provide students with high-demand skills and knowledge to be successful in the economy of the future. By partnering with the commonwealth, the university can expand resident undergraduate enrollment to qualified students from all corners of the commonwealth and ensure a high-quality education for our residents.
- 3. Expand and Enhance STEM-H Degree Production, Health Sciences, Neuroscience, Creative Technologies, and Computational Thinking: Virginia Tech is the state's STEM-H leader and produces nearly 25% of the commonwealth's STEM-H graduates.

We have developed innovative interdisciplinary undergraduate degree programs in neuroscience, nanoscience, systems biology, computational modeling, and data analytics as well as other areas that directly support the growing research and economic base of the commonwealth.

In particular, the neuroscience bachelor's degree program has proven to be an area of high interest and demand for new entering students. The university has undertaken a multi-year plan to leverage the Roanoke-based research expansion in this area to build a high enrollment on-campus undergraduate program and faculty in neuroscience. Additionally, Virginia Tech offers the only nanoscience undergraduate degree in the commonwealth and is one of only two in the United States. This multi-disciplinary degree program exposes students to geosciences, physics, chemistry, and biology and prepares them for a career in this growing field of discovery and development.

Cutting edge undergraduate degrees in microbiology, systems biology, and water will provide skills needed in the areas of energy and global sustainability. Further, the university has modified its general education requirements to include courses in "computational thinking" to help all students attain a sophisticated, fluent knowledge of the implications and possibilities of the digital age. The university will continue to increase support for participation in undergraduate research and experiential learning opportunities. Both of which lead to excellent job preparation and expanded career opportunities for graduates, particularly in STEM-H fields.

- 4. Support Faculty Startup Packages, Particularly for New Faculty in the STEM-H Fields, Including Equipment and Lab Renovation: Establishing and setting up a research facility or lab for a newly hired faculty member can cost millions of dollars. However this investment is a necessary cost as advanced facilities and equipment are essential for faculty to successfully compete for research funding from the federal government and other private sources. The university must be able to provide start-up packages to faculty to support equipment and infrastructure purchases that position them to successfully operate their instructional and research responsibilities. Competitive startup packages are a market reality to successfully compete for the best faculty. Correlation studies demonstrate that effective researchers are also highly effective at instructional delivery and at achieving student learning outcomes. Further, some employers seek students of certain research faculty for advanced employment opportunities.
- 5. Support Timely Degree Completion Through Enhanced Student Advising, Year-Round Academic Programs, and Instructional Resource Sharing Opportunities: The Joint Legislative Audit and Review Committee found that Virginia Tech has one of the highest graduation rates in the state and has successfully reduced the average time to degree from 4.22 to 4.11 years since 2007. Continuing this trend can expand the university's ability to enroll Virginia students and reduce the time and expense of completing a degree program.

Superior student advising services are essential to helping students properly plan and execute an efficient course of study leading to their desired credential. Departments and colleges are adopting a model that relies more heavily upon professional advisors for students in order to provide continuity over an undergraduate student's career. Professional advising staff can assist students in this more technical process and allow faculty advising to focus on academic mentoring and career planning.

In addition to enhancing student advising services, the university is investing in efforts to continue to accelerate degree completion. To accomplish this goal, incentives must be expanded to increase instruction and progress during the summer and winter months. The university is working to implement strategies to increase the election of year-round instruction by: (1) Lowering the costs for students who take seat based courses in Blacksburg over the summer/winter sessions, (2) creating summer/winter undergraduate research programs to provide meaningful, resume building employment for students, (3) expanding course offerings to meet the needs of students seeking to advance their plans of study toward early degree completion (4) increasing available student financial aid to ensure access to summer/winter enrollment, and (5) creating summer bridge programs for entering freshmen.

The university also plans to continue expanding efforts to share instructional resources, where appropriate, to ensure that students can access needed courses. These efforts include the commonwealth Graduate Engineering Program, foreign language courses and biological science online resources through the 4-VA consortium, a shared graduate certificate in translational medicine with the VT-Carilion School of Medicine, research and dissemination of pedagogical best practices for distance learning within the 4-VA consortium, among others. These efforts assist students and the commonwealth by enhancing student success while ensuring timely degree completion.

- **6.** Increase Graduate Enrollment in Strategic Areas: The university will increase graduate student enrollment, focusing on masters and doctoral level science, technology, engineering, mathematics, and health sciences (STEM-H). Graduate education is a key component of the university instruction and research mission that leads to innovation, technological development and entrepreneurship vital for the continued success of the Virginia economy. The commonwealth's investment would be leveraged with growth in external grants and contracts to support a vibrant comprehensive system of graduate and undergraduate education programs in STEM-H disciplines and cross-disciplinary programs.
- 7. Increase Support for Unique Military Activities: As one of the nation's senior military colleges, the Corps of Cadets at Virginia Tech is producing the next generation of Virginia's leaders. The university seeks increased support for the Unique Military Activities program that is equivalent to per student support at other public military programs within the commonwealth.

Technical Adjustments

 To the extent that technical adjustments are needed, the university will work with the staff in state offices to ensure the appropriate treatment of nongeneral fund appropriations or other technical items.

Operating Initiatives — Cooperative Extension and Agricultural Experiment Station (CE/AES)

1. Advance the Commonwealth's Capabilities for Growth in Translational Agricultural Biosciences: Bioscience in Virginia is currently an \$8 billion industry and an actively expanding economic sector. Agriculture and Forestry is Virginia's largest industry and has a combined economic impact of \$70 billion. The intersection of these

two sectors is an area in which Virginia is uniquely positioned to lead. Cooperative Extension's position as a partner in local communities at 107 locations throughout the commonwealth allows for the effective translation of cutting edge research into practical solutions for industry and for both rural and urban communities. In addition, the Virginia Agricultural Experiment Station research infrastructure and faculty expertise, present both on campus and in the 11 off-campus Agricultural Research and Extension Centers (ARECs) around the state, will provide the basis for excellence in selected areas of the translational agricultural biosciences.

RECOMMENDATION:

That the university administration be authorized to submit these budget initiatives to the commonwealth for inclusion in the 2016-18 Executive Budget proposal in accordance with state instructions and consistent with the initiatives contained herein.

Financial Performance Report - Operating and Capital FINANCE AND AUDIT COMMITTEE

July 1, 2014 to June 30, 2015

The Financial Performance Report of income and expenditures is prepared from two sources: actual accounting data as recorded at Virginia Tech and the annual budgets which are also recorded in the university accounting system. The actual accounting data reflect the modified accrual basis of accounting, which recognizes revenues when received rather than when earned and the expenditures when obligated rather than when paid. The Original Budget was approved by the Board of Visitors at the June meeting. The Adjusted Budget reflects adjustments to incorporate actual experience or changes made during the fiscal year. These changes are presented for review and approval by the Finance and Audit Committee and the Board of Visitors through this report. Where adjustments impact appropriations at the state level, the university coordinates with the Department of Planning and Budget to ensure appropriations are reflected accurately.

The July to June 2014-15 budget (year-to-date) is prepared from historical data which reflects trends in expenditures from previous years as well as known changes in timing. Differences between the actual income and expenditures and the year-to-date budget may occur for a variety of reasons, such as an accelerated or delayed flow of documents through the accounting system, a change in spending patterns at the college level, or increases in revenues for a particular area.

Quarterly budget estimates are prepared to provide an intermediate measure of income and expenditures. Actual revenues and expenditures may vary from the budget estimates. The projected year-end budgets are, however, the final measure of budgetary performance.

OPERATING BUDGET 2014-15

Dollars in Thousands

	July 1, 2014 to June 30, 2015			Annual Budget for 2014-15				
	Actual	Budget	Change	Original	Adjusted	Change		
Educational and General Programs								
<u>University Division</u>								
Revenues								
General Fund Tuition and Fees	\$147,481 420,948	\$147,481 419,868	\$0 1,080 (1)	\$158,805 410,277	\$147,481 419,868	\$-11,324 (7) 9,591 (8)		
All Other Income	38,824	39,728	-904	39,344	39,728	384 (9)		
Total Revenues	\$607,253	\$607,077	\$176	\$608,426	\$607,077	\$-1,349		
<u>Expenses</u>								
Academic Programs	\$-382,050	\$-382,040	\$-10	\$-377,224	\$-382,040	\$-4,816 (7,8,9)		
Support Programs	-223,566	-225,037	1,471	-231,202	-225,037	6,165 (7,8,9)		
Total Expenses	\$-605,616	\$-607,077	\$1,462	\$-608,426	\$-607,077	\$1,349		
NET	\$1,637	\$0	\$1,638	\$0	\$0	\$0		
CE/AES Division								
<u>Revenues</u>								
General Fund	\$67,122	\$67,122	\$0	\$68,100	\$67,122	\$-978 (10)		
Federal Appropriation All Other Income	22,090 1,033	18,283 1,065	3,807 (2) -32	14,483 865	18,283 1,065	3,800 (11) 200 (11)		
Total Revenues	\$90,245	\$86,470	\$3,775	\$83,448	\$86,470	\$3,022		
Expenses								
Academic Programs	\$-78,917	\$-79,642	\$725	\$-76,620	\$-79,642	-3,022		
Support Programs	-6,990	-6,828	-162	-6,828	-6,828	0		
Total Expenses	\$-85,907	\$-86,470	\$563	\$-83,448	\$-86,470	<u>\$-3,022</u> (10,11)		
NET	\$4,338	\$0	\$4,338	\$0	\$0	\$0		
Auxiliary Enterprises								
Revenues	\$305,125	\$304,087	\$1,038 (3)	\$294,243	\$304,087	\$9,844 (3)		
Expenses Reserve Drawdown (Deposit)	-294,270 -10,855	-311,986 7,899	17,716 (3) -18,754 (3)	-289,602 -4,641	-311,986 7,899	-22,384 (3) 12,540 (3)		
NET	\$0	\$0	\$0	\$0	\$0	\$0		
Sponsored Programs								
Revenues	\$301,074	\$336,768	\$-35,694 (4)	\$339,968	\$336,768	\$-3,200 (12)		
Expenses	-291,572	-336,768	45,196 (4)	-339,968	-336,768	3,200 (12)		
Reserve Drawdown (Deposit)	-9,502	0	-9,502	0	0	0		
NET	\$0	\$0	\$0	\$0	\$0	\$0		
Student Financial Assistance								
General Fund	\$20,098	\$20,098	\$0	\$19,977	\$20,098	\$121 (13)		
Expenses Reserve Drawdown	-20,093 0	-20,098 0	5 (5) 0	-19,977 0	-20,098 0	-121 (13) 0		
NET	<u> </u>	\$0	<u> </u>	\$0	\$0	<u> </u>		
All Other Programs *								
Revenue	\$6,660	\$6,356	\$304 (6)	\$6,631	\$6,356	\$-275 (14)		
Expenses	-5,612	-6,660	1,048 (6)	-6,631	-6,660	-29 (14)		
Reserve Drawdown (Deposit)	-1,048	304	-1,352 (6)	0	304	304 (14)		
NET	\$0	\$0	\$0	\$0	\$0	\$0		
Total University								
Revenues	\$1,330,455	\$1,360,856	\$-30,401	\$1,352,693	\$1,360,856	\$8,163		
Expenses Reserve Drawdown (Deposit)	-1,303,070 -21,405	-1,369,059 8,203	65,990 -29,608	\$-1,348,052 \$-4,641	-1,369,059 8,203	-21,007 12,844		
NET								
INE I	\$5,980	<u>\$0</u>	\$5,981	\$0	<u>\$0</u>	\$0		

^{*} All Other Programs include federal work study, alumni affairs, surplus property, and unique military activities.

- 1. While the annual budget was previously increased for strong spring retention, actual perfromance of Tuition and Fee revenue slightly exceeded the revised budget.
- 2. The budget for federal revenue is established to match projected allotments from the federal government. All expenses in federal programs are covered by drawdowns of federal revenue up to allotted amounts. Federal revenue in the Cooperative Extension/Agriculture Experiment Station Division was greater than the projected budget due to the timing of a draw that was requested in 2013-14, but received in 2014-15.
- 3. Quarterly and projected annual variances are explained in the Auxiliary Enterprises section of this report.
- 4. Historical patterns have been used to develop a measure of the revenue and expenditure activity for Sponsored Programs. Actual revenues and expenses may vary from the budget estimates because projects are initiated and concluded on an individual basis without regard to fiscal year. Total sponsored research revenues and expenses are less than projected, but the sponsored research expenditures are ahead of 2013-14 activity levels.
- 5. Budget for the Soil Scientist Program was underspent by \$3,668 and will be awarded in the next fiscal year. In addition, \$1,625 of the Virginia Military Survivors Dependents Program and Two-Year College Transfer Grant could not be awarded due to a change in recipient eligibility.
- 6. Revenues for All Other Programs were greater than projected due to higher than budgeted interest earnings, and surplus property revenue activity. Expenses for All Other Programs were less than projected due to timing of surplus property expense activity.
- 7. The General Fund revenue budget has been increased \$28,896 for the Virtual Library of Virginia distribution costs and \$4,500 for a transfer from Student Financial Assistance to the Educational and General program for assistantships in the Multicultural Academic Opportunities Program. It has been decreased \$4,806,037 for finalization of the state budget on June 23rd, \$6,133,525 for the September General Fund reduction, \$365,368 for the initial Central Appropriation Distribution and \$52,256 for a General Fund reduction for fuel and VITA savings. The corresponding expenditure budgets have been adjusted accordingly.
- 8. The annual budget for Tuition and Fees has been decreased by \$658,066 for the finalization of the budgets for tuition, E&G fees, and Veterinary Medicine capitation. It was increased by \$6,128,765 for strong fall enrollment and by \$4,120,000 for Spring retention and underutilized tuition offsets. The corresponding expenditure budgets have been adjusted accordingly.
- 9. The All Other Income revenue budget for the University Division has been decreased by \$270,000 for the commonwealth's capture of interest earnings and by \$110,354 for reduced Virginia racing revenue, and increased by \$124,952 for budget finalizations and by \$800,000 for higher than projected activity in the Veterinary Teaching Hospital. The budget was decreased by \$160,000 for lower than projected collection of late payment fee revenue. The corresponding expenditure budgets have been adjusted accordingly.
- 10. The General Fund revenue budget has been decreased \$622,096 for finalization of the state budget on June 23rd, and \$355,017 for actual state central fund distribution due to support below initial estimates. The corresponding expenditure budgets have been adjusted accordingly.
- 11. The Federal revenue budget in the Cooperative Extension/Agricultural Experiment Station Division has been increased \$3,800,000 for the carryover of unexpended federal funds and revised calculations of federal formula funds. The Self Generated revenue budget has been increased \$200,000 to recognize increased activity in milk and cattle sales. The corresponding expenditure budgets have been adjusted accordingly.
- 12. The revenue and expense budgets for Sponsored Programs were reduced \$3,200,000 for finalization of the state budget on June 23rd.
- 13. The projected year-end revenue and expense budgets for Student Financial Assistance were decreased \$271,420 for the finalization of the Graduate Fellowships program, increased \$71,100 for the VA Military Survivors and Dependent Program, and increased \$326,000 for the two-year College Transfer Grant. A revenue and expense budget of \$4,500 was transferred from Student Financial Assistance to the Education & General program in support of internships and graduate assistantships.
- 14. The projected annual budgets for All Other Programs were increased \$77,370 to finalize various budgets, decreased \$353,000 for a technical mid-year realignment of fund sources, and the expense budget was increased \$304,722 for outstanding 2013-14 commitments that were initiated but not completed before June 30, 2014.

UNIVERSITY DIVISION AUXILIARY ENTERPRISES

Dollars in Thousands

	July 1, 2014 to June 30, 2015			Annual Budget for 2014-15			
	Actual	Budget	Change	Original	Adjusted	Change	
Residence and Dining Halls							
Revenues Expenses Reserve Drawdown (Deposit)	\$108,357 -104,378 -3,979	\$107,878 -110,769 2,891	\$479 (1) 6,391 (1) -6,870 (1)	\$105,084 -102,045 -3,039	\$107,878 -110,769 2,891	\$2,794 (9) -8,724 (9,10,11) 	
Net	\$0	\$0	\$0	\$0	\$0	\$0	
Parking and Transportation							
Revenues Expenses Reserve Drawdown (Deposit)	\$13,714 -15,068 1,354	\$13,756 -16,332 2,576	\$-42 1,264 (2) -1,222 (2)	\$13,107 -13,537 430	\$13,756 -16,332 2,576	\$649 (12) -2,795 (10,11,12) 	
Net	\$0	\$0	\$0	\$0	\$0	\$0	
Telecommunications Services							
Revenues Expenses Reserve Drawdown (Deposit) Net	\$18,724 -18,467 -257 \$0	\$18,806 -19,340 <u>534</u> \$0	\$-82 873 (3) -791 (3) \$0	\$18,804 -18,615 -189 \$0	\$18,806 -19,340 534 \$0	\$2 -725 (10,11) 723 (10,11) \$0	
University Services System *							
. Revenues Expenses Reserve Drawdown (Deposit)	\$41,696 -38,105 -3,591	\$41,620 -40,860 -760	\$76 2,755 (4) -2,831 (4)	\$41,565 -40,357 -1,208	\$41,620 -40,860 -760	\$55 (13) -503 (10,11,13) 448 (10,11,13)	
Net	\$0	\$0	\$0	\$0	\$0	\$0	
Intercollegiate Athletics							
Revenues Expenses Reserve Drawdown (Deposit)	\$64,799 -65,037 238	\$64,407 -66,189 1,782	\$392 (5) 1,152 (5) -1,544 (5)	\$57,798 -56,421 -1,377	\$64,407 -66,189 1,782	\$6,609 (14) -9,768 (10,11,14)	
Net	\$0	\$0	\$0	\$0	\$0	\$0	
Electric Service							
Revenues Expenses Reserve Drawdown (Deposit)	\$36,499 -34,688 <u>-1,811</u>	\$36,721 -36,646 	\$-222 (6) 1,958 (6) -1,736 (6)	\$36,853 -36,040 813	\$36,721 -36,646 	\$-132 (15) -606 (10,11,15) -738 (10,11)	
Net	\$0	\$0	\$0	\$0	\$0	\$0	
Inn at Virginia Tech/Skelton Conf. Center Revenues Expenses Reserve Drawdown (Deposit)	\$10,847 -10,991 144	\$10,876 -11,633 757	\$-29 642 (7) -613 (7)	\$10,876 -11,544 668	\$10,876 -11,633 -757	\$0 -89 (10,11,16) <u>89</u> (10,11,16)	
Net	\$0	\$0	\$0	\$0	\$0	\$0	
Other Enterprise Functions							
Revenues Expenses Reserve Drawdown (Deposit)	\$10,489 -7,536 -2,953	\$10,023 -10,217 194	\$466 (8) 2,681 (8) -3,147 (8)	\$10,156 -11,043 887	\$10,023 -10,217 194	\$-133 (17) 826 (10,11,17) -694 (10,11,17)	
Net	\$0	\$0	\$0	\$0	\$0	\$0	
TOTAL AUXILIARIES							
Revenues Expenses Reserve Drawdown (Deposit)	\$305,125 -294,270 -10,855	\$304,087 -311,986 7,899	\$1,038 17,716 -18,754	\$294,243 -289,602 -4,641	\$304,087 -311,986 7,899	\$9,845 -22,384 12,539	
Net	\$0	\$0	<u>\$0</u>	\$0	<u>\$0</u>	<u>\$0</u>	

^{*} University Services System includes Health Services, VT Rescue Squad, Career Services, Student Centers & Activities, Student Organizations, Recreational Sports, and the Center for the Arts.

- 1. Residence and Dining Hall revenues are higher than projected due to self-generating revenue from conference and dining business activity. Expenses are lower than projected due to the timing of operating expenses, one-time facility improvement projects, and replacement of furniture and equipment normally scheduled during the summer months.
- 2. Expenses in Parking and Transportation Services are lower than projected due to lower than forecasted Fleet Services business volume.
- 3. Expenses in Telecommunications Services are lower than projected due to the timing of one-time project expenses related to campus telecommunication equipment.
- 4. Expenses for the University Services System are lower than projected due the timing of operating expenses and union facility projects.
- 5. Revenues for Intercollegiate Athletics are higher than projected due to higher than projected football ticket sales. Expenses are lower than projected due to the timing of operating expenses and one-time sports facility projects.
- 6. Revenue and expenses for the Electric Service auxiliary are lower than projected due to lower than anticipated electricity consumption. Expenses are also lower due to lower than forecasted total cost of purchased electricity as well as the timing of items ordered but not yet received thus not paid at fiscal year-end.
- 7. Expenses for the Inn at Virginia Tech and Skelton Conference Center are lower than projected due to the timing of one-time facility projects in progress.
- 8. Revenues for Other Enterprise Functions are higher than projected due to higher than forecasted business volume in New Student Programs, Tailor Shop, Licensing and Trademark, Software Sales, and Printing Services. Expenses are lower than projected due to timing of operating expenses, one-time projects, and server replacement for Hokie Passport.
- 9. The projected annual revenue, expense, and reserve budgets for Residence and Dining Halls were adjusted for increased occupancy in the Residence Halls, orientation and summer school revenue, Dining business volume, one-time facility projects, planned maintenance expenses, and one-time residential wireless projects.
- 10. The projected annual expense budget for Auxiliary Enterprises was adjusted for \$10.1 million in outstanding 2013-14 commitments and projects that were initiated but not completed before June 30, 2014. This amount includes \$3.1 million for Athletics, \$2.7 million for Residence Halls, and \$0.9 million in Telecommunication Service commitments and projects. The remainder is spread across the other auxiliary programs.
- 11. The projected annual expense and reserve budgets for the Auxiliary Enterprise were adjusted to reduce the placeholder budgets for compensation and fringe benefits to final amounts.
- 12. The projected annual revenue, expense, and reserve budgets for Parking and Transportation were decreased for business volume in Parking Services and Fleet Services. The projected annual expense and reserve budgets for Transit Auxiliary were increased for the Multi-Modal Transit Facility project. The projected revenues, expenses, and reserve budgets in Parking Services were adjusted due to timing of prior year operating activities, including an increase of \$1.3 million for payment for parking spaces displaced by capital projects to replace those parking spaces, and an increase of \$2.8 million due to the new airport hangar capital project.
- 13. The projected annual revenue and expense budgets for the University Services System were increased for career fair revenue and expenses in Career Services Auxiliary and a \$250,000 increase for one-time facility maintenance expenses in Squires Student Center.
- 14. The projected annual revenue budget for Intercollegiate Athletics was increased \$6.6 million to accommodate additional revenue from conference allocation, private gifts, basketball guarantees, game settlements, licensing, the Military Bowl, football and basketball ticket revenue, and concessions. These increases were partially offset by decreased revenue from student football tickets and women's basketball tickets. Annual expense and reserve draw budgets were adjusted \$6.8 million to accommodate the Military Bowl expenses, personnel actions, Student Athlete Academic Support Services support, ongoing operational needs, game settlements, scholarship activity, one-time athletic facility projects, and ticket sales expenses.
- 15. The projected annual revenue and expense budgets for Electric Service were decreased to accommodate for revised 2014-15 cost of wholesale electricity and reduced customer rates.
- 16. The projected annual expense and reserve budgets for the Inn at Virginia Tech and Skelton Conference Center were adjusted for decreased one-time project expenses.
- 17. The projected annual revenue, expense, and reserve budgets for Other Enterprise Functions were adjusted for increased business volume in New Student Programs and Library Photocopy, licensing contracts in Software Sales, the establishment of the Child Play Group, equipment purchases in Hokie Passport, timing of clearing accounts, increased personnel and scholarship expenses in Licensing and Trademark.

CAPITAL OUTLAY PROJECTS AUTHORIZED AS OF June 30, 2015

Dollars in Thousands

	CURRENT YEAR			TOTAL PROJECT BUDGET					
	ORIGINAL ANNUAL BUDGET	REVISED ANNUAL BUDGET	YTD EXPENSES	STATE SUPPORT	GENERAL OBLIGATION BOND	NONGENERAL FUND	REVENUE BOND	TOTAL BUDGET	CUMULATIVE EXPENSES
Educational and General Projects									
Educational and General Maintenance Reserve Maintenance Reserve	6,975	9,196	6,159	9,196	0	0	0	9,196	6,159 (1)
<u>Design Phase</u> Academic Buildings Renewal Improve Kentland Facilities	542 530	542 530	46 80	0	0 0	1,889 1,500	0	1,889 1,500	1,357 (2) 208 (3)
Construction Phase Address Fire Alarm Systems and Access Classroom Building McBryde 100 Classroom Renovation	1,700 14,400 0	1,700 10,000 500	380 7,023 503	4,891 42,652 0	0 0 0	0 0 2,800	0 0 0	4,891 42,652 2,800	691 (4) 9,669 (5) 503 (6)
Close-Out Academic and Student Affairs Building Chiller Plant, Phase I Human & Agricultural Biosciences Building I Marching Virginians Practice Facility Performing Arts Center Renovate Davidson Hall, Phase I Signature Engineering Building	491 220 621 3,300 810 392 16,000	491 220 1,100 3,300 845 1,593 16,000	434 192 776 2,813 844 1,261 14,891	0 12,059 53,759 0 27,387 32,003 47,609	0 0 0 0 0 0	0 400 0 4,750 32,565 0 18,650	45,153 7,639 0 0 40,135 0 28,959	45,153 20,098 53,759 4,750 100,087 32,003 95,218	44,291 (7) 19,711 (8) 53,226 (9) 3,002 (10) 99,338 (11) 31,671 (12) 90,716 (13)
On Hold and Not Funded Blanket: E&G Research Projects TOTAL	45,981	46,017	35,402	229,556	0	3,500	121,886	3,500	547 (14)

CAPITAL OUTLAY BUDGET

Educational and General Projects

- 1. The current year and total project budget amounts reflect the balance of maintenance reserve appropriation carried forward from fiscal year 2014 and the state's fiscal year 2015 allocation of \$8.021 million of Maintenance Reserve funds.
- 2. This project is for the renovation of three academic buildings located in the core of main campus bordering the Drillfield: Davidson Hall-Front Section, Sandy Hall, and the Liberal Arts Building. Preliminary Design work is complete and the project is moving into the Working Drawings phase. The state has authorized a total project cost of \$30.5 million based on preliminary designs and appropriated General Fund resources for the project effective fiscal year 2016.
- 3. The instructional components of the Dairy Science program are being relocated to Kentland through a project with the Virginia Tech Foundation. This project is for planning the relocation of six remaining agricultural facilities with three new facilities. The new facilities include a metabolism research laboratory, an applied reproduction facility, and a building for animal demonstration, handling, and holding spaces. Preliminary Design work is underway. The state has authorized a total project cost of \$7.6 million and appropriated General Fund resources for the project effective fiscal year 2016.
- 4. This project will support progress on fire alarm systems and accessibility improvements for several E&G buildings. The implementation plan calls for improvements to be executed in multiple packages, and construction funding will be released on a package-by-package basis. The State has allocated \$4.89 million of General Fund resources for the total project budget of which \$4 million has been committed to projects underway or completed: Food Science and Technology Building, Architecture Annex, Wallace Annex, War Memorial Hall, Lane Hall, Whittemore Hall, Patton Hall, and Randolph Hall.
- 5. This project is for a 73,400 gross square foot classroom building to meet the university's instructional classroom and laboratory needs. The state approved a revised total project budget of \$42.65 million inclusive of \$3.65 million of equipment on November 12, 2014. Construction is underway with substantial completion expected in July 2016. The annual budget was adjusted in the third quarter to reflect slower than anticipated cash outflows for the project in fiscal year 2015.
- 6. This project will renovate the 5,900 gross square foot, 560-seat McBryde 100 Classroom and restore the space to a state-of-theart learning environment for the benefit of undergraduate education. Construction is underway and the project is scheduled to be completed in August to ensure the classroom is ready for use by the fall 2015 academic semester. Year-to-date expenditures exceeded the annual budget because expenses expected in fiscal year 2016 were invoiced in fiscal year 2015. Resources were sufficient to cover the accelerated cash outflow and the project remains within budget.
- 7. The project is complete and was closed as of June 30, 2015 with final project costs of \$44.291 million.
- 8. The project is complete and was closed as of June 30, 2015 with final project costs of \$19.711 million.
- 9. The project is complete and has been occupied since January 2014. The project may be closed and financial accounts terminated when completion of the authorized scope has been verified by the Chief Facilities Officer. The annual budget was adjusted in the third quarter to reflect expected cash outflows for fiscal year 2015.
- 10. The project is complete and has been occupied since July 2015. The project may be closed and financial accounts terminated when final invoices are received and paid and completion of the authorized scope has been verified by the Chief Facilities Officer.
- 11. The project is complete and was closed as of June 30, 2015 with final project costs of \$99.338 million.
- 12. The project is complete and has been occupied since June 2014. The state approved a revised total project budget of \$32 million in August 2014 inclusive of \$884,360 supplement related to soil contamination and schedule extension. The annual budget was adjusted in the second quarter to reflect this revised funding approval. The project may be closed and financial accounts terminated when completion of the authorized scope has been verified by the Chief Facilities Officer.
- 13. The project is complete and has been occupied since June 2014. The project may be closed and financial accounts terminated when completion of the authorized scope has been verified by the Chief Facilities Officer.
- 14. This is a subproject of a Blanket Authorization, which allows unforeseen small projects to be authorized administratively with nongeneral funds for expediency. This authorization is expected to be closed at the end of fiscal year 2015.

Dollars in Thousands

	CURRENT YEAR			TOTAL PROJECT BUDGET					
	ORIGINAL ANNUAL BUDGET	REVISED ANNUAL BUDGET	YTD EXPENSES	STATE SUPPORT	GENERAL OBLIGATION BOND	NONGENERAL FUND	REVENUE BOND	TOTAL BUDGET	CUMULATIVE EXPENSES
Auxiliary Enterprises Projects									
Auxiliary Maintenance Reserve Maintenance Reserve	7,000	7,000	7,134	0	0	18,526	0	18,526	7,134 (1)
Design Phase	0	60	•	0	0	0.500	0	2.520	C (0)
Airport Hangar	0	62 190	6 107	0	0	2,520	0	2,520	6 (2)
Health Center Improvements Lane Substation Expansion	190 0	0	0	0	0 0	0 2,000	3,071 4,500	3,071 6,500	107 (3) 0 (4)
Planning: Softball and Track Improvements	0	10	0	0	0	500	4,300	500	0 (4)
Training. Condair and Track improvements	v	10	· ·	Ü	· ·	500	Ü	000	0 (0)
Construction Phase									
Residential Connectivity	0	2,309	2,309	0	0	4,000	0	4,000	2,309 (6)
South Recreation Field Surface Replacement	165	3,400	1,395	0	0	0	4,600	4,600	1,430 (7)
Unified Communications & Network Renewal	2,809	1,000	873	0	0	7,705	8,803	16,508	12,222 (8)
Upper Quad Residential Facilities	14,400	26,900	26,603	0	0	23,377	67,623	91,000	35,700 (9)
Close-Out	40.000	40.000	47.000	•	•	04.000	. =	000	40 400 (40)
Indoor Athletic Training Facility	18,900	18,900	17,280	0	0	21,300	3,700	25,000	18,499 (10)
Phase IV of Oak Lane Community (House 1)	121	121	100	0	0	6,002	0	6,002	5,982 (11)
On Hold and Not Funded									
New Residence Hall II	0	0	0	0	0	0	27,000	27,000	182 (12)
Parking Blanket Authorizations Balance	0	0	0	0	0	0	16,547	16,547	0 (13)
Phase IV of Oak Lane Community (Houses 2 - 5)	0	0	0	0	0	0	17,498	17,498	0 (14)
TOTAL	43,585	59,892	55,808	0	0	85,930	153,342	239,273	83,571
GRAND TOTAL	\$ 89,566	\$ 105,909	\$ 91,209	\$ 229,556	\$ -	\$ 151,984	\$ 275,228	\$ 656,768	\$ 444,660

RECOMMENDATION:

That the report of income and expenditures for the University Division and the Cooperative Extension/Agricultural Experiment Station Division for the period of July 1, 2014 through June 30, 2015 and the Capital Outlay report be accepted.

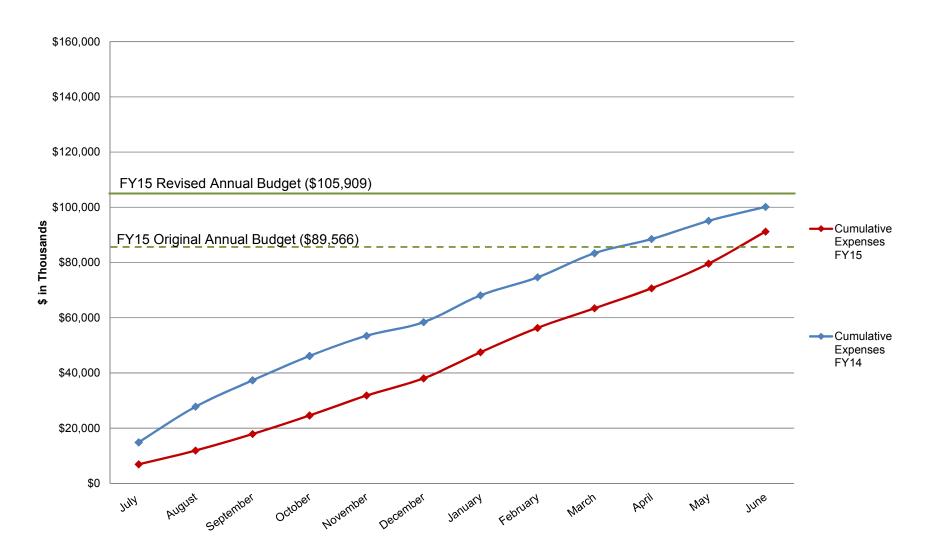
August 31, 2015 8

Auxiliary Enterprises Projects

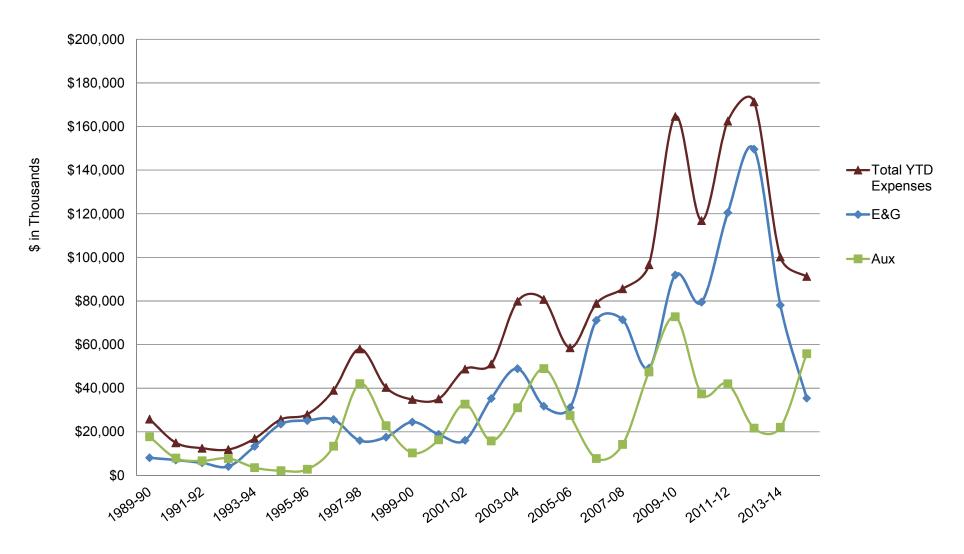
- 1. Projects are scheduled and funded by the auxiliary enterprises during the annual Auxiliary Enterprise budgeting process. The units prepare five-year plans that outline their highest priority deferred maintenance needs. The annual budget reflects the spending plans of the auxiliary units on scheduled maintenance reserve work for fiscal year 2015. The outstanding balance is committed to a five year forward looking maintenance plan to ensure sufficient resources are available for major maintenance repairs. The auxiliary maintenance reserve program covers 104 assets with a total replacement value of \$1.1 billion. Year-to-date expenses exceeded the annual budget because expenses expected in fiscal year 2016 were invoiced in fiscal year 2015. Resources were sufficient to cover the additional cash outflow.
- 2. This project will design, construct, install necessary utilities, and equip a 14,000 gross square foot building with the capacity to house two planes and to provide interior office spaces for pilots. The existing hangar will be razed at a later time as part of the future runway extension project. The project is in schematic design and will begin construction fall 2015. The annual budget was established in the third quarter to reflect initiating the project.
- 3. This project will plan and construct a 3,000 gross square feet one-story addition to the east wing of McComas Hall and a renovation of 1,700 gross square feet to an interior portion of the existing Schiffert Health Center. Planning work is underway with schematic design nearing completion.
- 4. This project will expand the Lane Substation on Innovation Drive. The project includes the purchase and installation of two 28,000 kVA transformers, two circuit switchers, six distribution reclosers with space for an additional four reclosers, a control house and associated relay, and control equipment. The total cost is expected to be \$6.5 million.
- 5. This project will plan a permanent solution for softball hitting practice and a long-term solution for Rector Field House serviceability for the track and field programs. The planning authorization will cover establishing a scope, schedule, delivery method, preliminary design efforts, cost, and a funding plan for the envisioned solution. The annual budget was established in the third quarter to reflect initiating planning activity.
- 6. This project will install necessary components for Wi-Fi network transmission through approximately 2,000 wireless access points in thirty-eight residence halls. The project also updates the residential wired network infrastructure to accommodate the increased demand on the network from wireless devices. The total cost is estimated to be \$3.3 million and the authorization will be underspent. The annual budget was established in the third quarter to reflect initiating the project.
- 7. This project will replace the natural turf of the south recreation field surface with a synthetic turf playing surface. A multi-purpose area will be created that may be arranged as six flag football fields, or six soccer fields, or four 300-foot softball fields. Construction is underway with substantial completion expected in summer 2015. The total cost is expected to be \$3.710 million and the authorization will be underspent. The annual budget was adjusted in the first quarter to reflect construction authorization and in the third quarter to reflect expected cash outflows for fiscal year 2015.
- 8. This project includes improvements to four complementary communication infrastructure components. The four components include a unified communications system, upgrading the Internet Protocol (IP) Network, upgrading the cable plant, and upgrading equipment rooms in various facilities. The total expected costs are \$16.5 million and this project is anticipated to be complete in spring 2017. The annual budget was adjusted in the third quarter to reflect expected cash outflows for fiscal year 2015.
- 9. This project replaces Rasche and Brodie with two new residential facilities and razes Thomas and Monteith. The construction phase is underway with total expected costs of \$91 million. This project schedule calls for completion of the two new halls by fall semester 2016 based on a three-year construction schedule. The annual budget was adjusted in the third quarter to reflect expected cash outflows for fiscal year 2015.
- 10. The new field house is complete and was occupied in June 2015. The total cost is expected to be \$21.3 million and the authorization will be underspent. The project may be closed and financial accounts terminated when completion of the authorized scope has been verified by the Chief Facilities Officer.
- 11. The subproject is complete and was closed as of June 30, 2015.
- 12. This project envisioned a new residence hall of approximately 250 beds. Cost estimates exceed the project budget and the project is on hold while the university explores alternatives. Funding for the project may be considered pending a program plan and financial plan.
- 13. The purpose of this unfunded parking blanket authorization balance is to complete future improvements and repair projects for the parking system as specific needs are identified and as funding becomes available.
- 14. This is the remaining unallocated authorization of the original \$23.5 million Oak Lane Community, Phase IV project. The outstanding Oak Lane Community expansion, houses two through five and their necessary site improvements, may be constructed as organizations come forward with program and financing plans.

CAPITAL PROGRAM ANNUAL PERFORMANCE Cumulative Monthly Expenditures

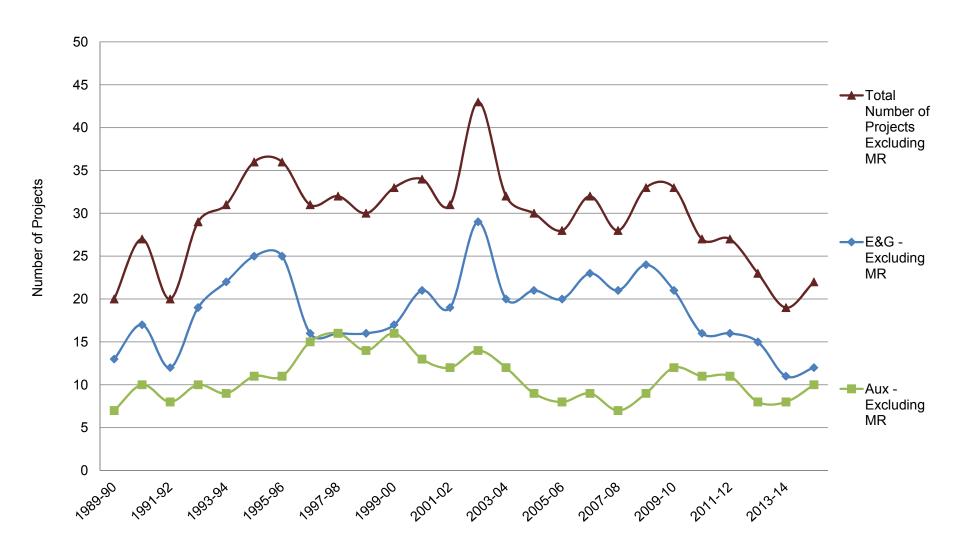
Fiscal Year 2014 and Fiscal Year 2015



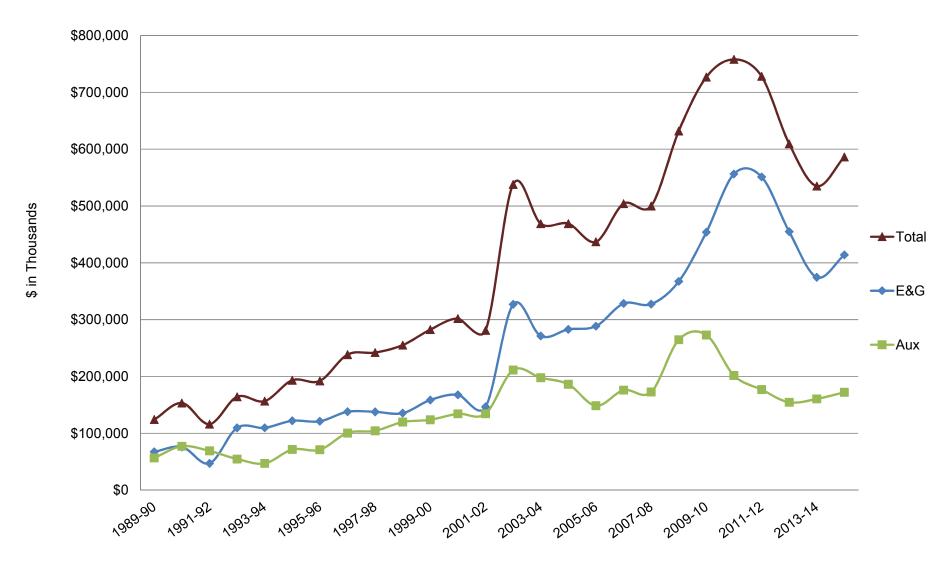
CAPITAL PROGRAM EXPENSE TREND <u>Total Annual Expenses for Active Capital Projects</u> Fiscal Year 1990 - Fiscal Year 2015



CAPITAL PROGRAM PROJECTS <u>Total Number of Active Capital Projects</u> Fiscal Year 1990 - Fiscal Year 2015



CAPITAL PROGRAM TOTAL BUDGET Total Budget Level of Active Projects Fiscal Year 1990 - Fiscal Year 2015



Approval of Virginia College Building Authority 9(d) Financing Resolution FINANCE AND AUDIT COMMITTEE

August 13, 2015

Section 9(d) of Article X of the Constitution of Virginia allows for the issuance of debt by the Virginia College Building Authority (VCBA). The following project has been authorized to be financed for up to \$6,943,512 plus amounts needed to fund issuance costs, original issue discount and other financing expenses:

Unified Communications:

\$6,943,512

The Unified Communications Project, approved by the Board on March 26, 2012, proposed an upgrade of the communications infrastructure of the university. The university's aging communications system has exceeded its useful life and must be replaced. The Unified Communications and Network Renewal project (Capital Outlay Project #18183) will replace outdated campus telephones, voicemail systems, networking equipment, cabling and equipment rooms at a total project cost of up to \$16,508,000 plus amounts needed to fund issuance costs, original issue discount and other financing expenses. The total \$16,508,000 project cost will be funded with \$6,943,512 of debt and \$9,564,488 of cash. Debt service will be paid from Telecommunications Services Auxiliary revenue.

The bonds for the project will be issued through the Virginia College Building Authority (VCBA), and the university will enter into a loan agreement and promissory note subject to the following parameters: (a) the principal amount shall not be greater than the amount authorized by the General Assembly, (b) the amount of the promissory note shall not exceed \$6,943,512 plus amounts needed to fund issuance costs, original issue discount and other financing expenses, (c) the interest rate shall not exceed a true interest cost more than 50 basis points higher than the interest rate for "AA" rated securities with comparable maturities, (d) the weighted average maturity of the principal payments shall not exceed 20 years, (e) the last principal payment date shall not extend beyond the reasonably expected economic life of the project, and (f) the amount, interest rates, maturities and date of the note shall be approved by an authorized officer.

The resolution identifies (1) the Vice President for Finance and Chief Financial Officer, and (2) the University Treasurer as each being authorized to execute and deliver all certificates and instruments and to take all such further action as may be considered necessary or desirable in connection with the sale and issuance of the bonds.

Presentation Date: August 31, 2015

RESOLUTION ON UNIFIED COMMUNICATIONS VCBA 9(d) FINANCING

WHEREAS, pursuant to and in furtherance of Chapter 3.2, Title 23 of the Code of Virginia of 1950, as amended (the "Act"), the Virginia College Building Authority (the "Authority") developed a program (the "Program") to purchase debt instruments issued by public institutions of higher education in the Commonwealth of Virginia ("Participating Institutions" and each a "Participating Institution") to finance or refinance projects of capital improvement ("Capital Projects" and each a "Capital Project") included in a bill passed by a majority of each house of the General Assembly of Virginia (the "General Assembly");

WHEREAS, under the Program the Authority from time to time issues its Educational Facilities Revenue Bonds (Public Higher Education Financing Program) ("Pooled Bonds") to finance the purchase or refunding of debt instruments issued by Participating Institutions to finance or refinance Capital Projects;

WHEREAS, if a Participating Institution desires to finance or refinance a Capital Project through the Program it must enter into a loan agreement with the Authority, under which: (i) the Participating Institution will issue its promissory note pursuant to Chapter 3, Title 23 of the Code of Virginia of 1950, as amended, to evidence a loan to it by the Authority; (ii) the Authority will agree to issue Pooled Bonds and use proceeds thereof to purchase the promissory note; (iii) the Participating Institution will agree to use proceeds of Pooled Bonds, loaned to it and received in exchange for its promissory note, to finance or refinance the Capital Project and to not take actions that may jeopardize any federal tax-exempt status of interest on Pooled Bonds allocable to financing or refinancing the Capital Project; and (iv) the Participating Institution will agree to make payments under the promissory note in sums sufficient to pay, together with certain administrative and arbitrage rebate payments, the principal of, premium, if any, and interest due on such Pooled Bonds;

WHEREAS, the Board of Visitors (the "Board") of Virginia Polytechnic Institute and State University (the "Institution") from time to time desires to finance or refinance Capital Projects for the Institution as a Participating Institution under the Program, and now proposes that the Institution issue its promissory note or notes (collectively, the "Note") to be sold to the Authority in accordance with a loan agreement or loan agreements between the Institution and the Authority (collectively, the "Loan Agreement"), under which proceeds of Pooled Bonds will be loaned to and received by the Institution in exchange for the Note, to finance or refinance costs of the following Capital Project authorized for bond financing by the General Assembly: Replace Unified Communications System and Network, Capital Outlay Project Number 18183 (the "Project"); and

WHEREAS the Board desires to designate certain Institution officers (i) delegated the authority to approve the forms of and to execute and deliver the Loan Agreement, the Note and any amendments thereto, and any other documents necessary or desirable in connection with financing or refinancing costs of the Project through and participation in the Program; and (ii) responsible for monitoring post-issuance compliance with covenants of the Institution related to maintaining any federal tax-exempt status of interest on Pooled Bonds.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF VISITORS OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY:

Section 1. The Project is hereby designated to be undertaken and financed or refinanced by the Authority and, accordingly, the Vice President for Finance and Chief Financial Officer, and the University Treasurer (the "Authorized Officers") are each hereby delegated and invested with full power and authority to approve the forms of the Loan Agreement, the Note and any amendments thereto (in connection with any refunding of Pooled Bonds financing or refinancing the Project or otherwise), and any pledge to the payment of the Note and any amendment thereto of total gross university sponsored overhead, unrestricted endowment income, tuition and fees, indirect cost recoveries, auxiliary enterprise revenues, general and nongeneral fund appropriations and other revenues not required by law or previous binding contract to be devoted to some other purpose, restricted by a gift instrument for another purpose or excluded from such pledge as provided in the Loan Agreement, subject to the provisions of Section 3 hereof.

Subject to the provisions of Section 3 hereof, the Authorized Section 2. Officers are each hereby delegated and invested with full power and authority to execute, deliver and issue, on behalf of the Institution, (a) the Loan Agreement, the Note and any amendments thereto (in connection with any refunding of Pooled Bonds financing or refinancing the Project or otherwise), with approval of such documents in accordance with Section 1 hereof evidenced conclusively by the execution and delivery of the respective document, and (b) any other documents, instruments or certificates as may be deemed necessary or desirable to finance or refinance costs of the Project through and participate in the Program, and to further carry out the purposes and intent of this resolution. The Authorized Officers are authorized and directed to take such steps and deliver such certificates in connection with delivery of the Note, and any amendment thereto, as may be required under any existing obligations, including bond resolutions relating to any outstanding general revenue pledge bonds, and to notify Virginia Department of Treasury representatives serving as Authority staff at least 60 days in advance of a pledge of any amounts pledged to the payment of the Note in accordance with Section 1 hereof to, or as security for, the payment of any other Institution obligations issued or entered into after the date hereof for so long as the Note and any amendments thereto remain outstanding.

The authorizations given above as to the approval, execution, delivery and issuance of the Loan Agreement, the Note and any amendments thereto (in connection with any refunding of Pooled Bonds financing or refinancing the Project or otherwise) are subject to the following parameters: (a) the principal amount to be paid under the Note allocable to any component of the Project, together with the principal amount of any other indebtedness with respect to such component, shall not be greater than the amount authorized for such component by the General Assembly plus amounts needed to fund issuance costs, original issue discount, other financing (including without limitation refunding) expenses and any other increase permitted by law; (b) the aggregate principal amount of the Note shall in no event exceed \$6,943,512 as the same may be so increased; (c) the aggregate interest rate payable under the Note shall not exceed a "true" or "Canadian" interest cost more than 50 basis points higher than the interest rate for "AA" rated securities with comparable maturities. as reported by Thomson Municipal Market Data (MMD) or another comparable service or index, as of the date that the interest rates are determined, taking into account any original issue discount or premium; (d) the weighted average maturity of the principal payments due under the Note shall not exceed 20 years after the original issue date of the Note; (e) the last principal payment date under the Note shall not extend beyond the reasonably expected weighted economic life of the Project; and (f) subject to the foregoing, the actual amount, interest rates, principal maturities, and date of the Note shall be approved by an Authorized Officer, as evidenced by the execution thereof.

Section 4. The Board acknowledges that if there is a failure to make, as and when due, any payment of the principal of, premium, if any, and interest on any promissory note issued by the Institution as a Participating Institution to the Authority under the Program, including without limitation the Note and any amendments thereto, the State Comptroller is authorized under the Program and Section 23-30.29:3 of the Code of Virginia of 1950, as amended, to charge against appropriations available to the Institution all future payments of principal of, premium, if any, and interest on such promissory note when due and payable and to make such payments to the Authority or its designee, so as to ensure that no future default will occur on such promissory note.

Section 5. The Board agrees that if the Authority determines the Institution as a Participating Institution shall be subject to continuing disclosure obligations under Rule 15c2-12 of the federal Securities and Exchange Commission with respect to any Pooled Bonds, (a) an Authorized Officer shall, and is hereby authorized and directed to, enter into a continuing disclosure undertaking in form and substance reasonably satisfactory to the Authority, and (b) the Institution will comply with the provisions and disclosure obligations contained therein.

Section 6. The Board designates the University Treasurer to be responsible for implementing procedures to monitor post-issuance compliance with covenants in any loan agreement between the Institution as a Participating Institution and the

Authority, including the Loan Agreement and any amendments thereto, related to maintaining tax-exempt status for federal income tax purposes of interest on any Pooled Bonds, including without limitation monitoring the use of any portion of all Capital Projects for the Institution financed or refinanced with such Pooled Bonds and compliance with any applicable federal income tax remedial action requirements in connection with certain changes in such use. Such officer shall review such post-issuance compliance at least annually for so long as such Pooled Bonds remain outstanding.

Section 7. This resolution shall take effect immediately upon its adoption.

RECOMMENDATION:

That the above resolution authorizing the issuance of 9(d) bonds through the Virginia College Building Authority on behalf of the university for the Unified Communications project be approved.

August 31, 2015

Approval of Virginia Tech 9(d) Financing Resolutions

FINANCE AND AUDIT COMMITTEE

August 13, 2015

Section 9(d) of Article X of the Constitution of Virginia allows for the issuance of debt by either the university or the Virginia College Building Authority (VCBA). Under the VCBA pooled bond program, the university is able to access favorable interest rates for its combined issuance with the Commonwealth of Virginia's VCBA pooled bond program. For the auxiliary System-related debt issuance in Fall 2015, the university desires to issue debt on its own. Due to its Aa1/AA debt rating, the university is able to obtain favorable interest rates, as well.

The university has opted to issue its own debt in order to extend and preserve the Auxiliary Systems. Virginia Tech has traditionally maintained four auxiliary systems: the Dormitory and Dining Hall System, the Athletic Facilities System, the University Services System, and the Utility System. The Systems were created to provide assurance to bond holders that System revenues are protected and pledged to the payment of debt service and to allow for dedicated repair and replacement reserves that are not subject to liens of any creditor of the university. Given that the structure of the Systems is aligned with internal controls and best business practices, the university wants to continue to provide the same level of assurance to the holders of System debt.

The university plans to sell tax-exempt bonds in September, 2015 to fund \$63.068 million of capital projects for its four existing Auxiliary Systems. The projects include Upper Quad Residential Facility - \$54.358 million, South Recreation Field Improvements - \$3.71 million, Lane Substation Expansion - \$4.5 million and Indoor Athletic Training Facility - \$500,000. The four projects are seeking financing authorization for up to \$63.068 million plus amounts needed to fund issuance costs, original issue discount and other financing expenses.

1. Upper Quad Residential Facility

\$54,358,000

The Upper Quad Residential Facility project, approved by the Board on September 9, 2013, replaces existing four residential facilities – Rasche Hall, Brodie Hall, Thomas Hall, and Monteith Hall with two modern residence halls. Each of the two residence halls are envisioned to be approximately 97,000 square feet and will replace the existing inventory with modern space. The total \$91 million project cost will be funded with \$54.358 million of debt and \$36.642 million of auxiliary enterprise cash. The debt will be serviced from revenue generated by student fees charged by the residential program auxiliary enterprise.

2. South Recreation Field Improvements

\$3,710,000

The South Recreation Field Improvements project, approved by the Board on September 15, 2014 proposed the replacement of natural turf field with synthetic turf to create a multi-purpose area to allow Recreation Sports to meet the students'

expectations for outdoor recreation space. The original project cost was \$4.6 million and the project came in under budget at \$3.71 million. The debt service will be serviced by the redirection of existing student fee revenues.

3. Lane Electric Substation Expansion

\$4,500,000

The Lane Electric Substation Expansion project, approved by the Board on June 1, 2015, plans for expansion of the substation to meet the increased demand for power supply due to campus growth. The improvements would alleviate the loading problems at the Substation and service future construction in the Life Sciences area, Special Purpose Housing area, and the second phase of the Corporate Research Center. The total project cost is \$6.5 million and the funding plan calls for \$4.5 million of debt and \$2 million of auxiliary cash. The debt service will be serviced from Electric Service auxiliary revenue.

4. Indoor Athletic Training Facility

\$500,000

The Indoor Athletic Training Facility was approved by the State in 2006. The project was initially placed on hold to advance other Athletic capital projects and was re-initiated in March 2014. The planned facility has a project cost of \$21.3 million and is funded with \$18.9 million of private support, \$1.9 million of auxiliary enterprise cash and \$500,000 of debt. The debt service will be funded by self-generated athletics revenue.

The issuance of debt for each of the four projects requires Board approval of both an amended and restated resolution and a series resolution. Each of the four sets of System resolutions are the same in all substantive respects except for the applicable project description and system and series designations throughout the document. The outside maturity for each issue is 20 years and the resolutions stipulate that the true interest cost cannot exceed 5 percent.

Accordingly, the Board of Visitors is being requested to approve the following eight resolutions authorizing and securing the 2015 bond issue:

- The Amended and Restated Resolution Securing the Dormitory and Dining Hall System Revenue Bonds, and the corresponding Series 2015A Resolution
- The Amended and Restated Resolution Securing the University Services System Revenue Bonds, and the corresponding Series 2015C Resolution
- The Amended and Restated Resolution Securing the Utility System Revenue Bonds, and the corresponding Series 2015D Resolution
- The Amended and Restated Resolution Securing the Athletic Facilities System Revenue Bonds, and the corresponding Series 2015B Resolution

Contingent upon a continued low interest rate environment, the university also plans to refund up to \$2.715 million of its Series 2004A General Revenue Pledge Refunding Bonds, which would require a separate bond resolution. The outside maturity is four years and the resolution stipulates that the true interest cost cannot exceed 2.5 percent. Accordingly, the Board is requested to approve the following resolution authorizing and securing the 2015 refunding bonds:

• The General Revenue Pledge Refunding Bonds Series 2015E

The nine resolutions are the collective byproduct of six months of extensive collaboration between the university bond counsel - Troutman Sanders, university financial advisor - Raymond James, underwriter's counsel - McGuire Woods, senior managing underwriter - Bank of America Merrill Lynch and multiple university departments (University Legal Counsel, University Treasurer, University Controller, Assistant VP for Capital Assets and Financial Management, Assistant VP for Budget and Financial Planning and the Director of Debt Management).

The resolutions authorize the university President, along with either the Vice President for Finance and CFO or University Treasurer, to execute the bonds on behalf of the university. The Vice President for Finance and CFO and University Treasurer are authorized to execute and deliver all certificates and instruments and to take all such further action as may be considered necessary or desirable in connection with the sale of the System and Refunding bonds. Such further action includes approving and deeming final the Preliminary Official Statement, approving the Continuing Disclosure Agreement, approving the Bond Purchase Agreement that sets forth the final terms of the bonds and completing the blanks or amending the resolutions to reflect those final terms.

A complete set of bond documents are listed below and are included as attachments to the report:

Attachment A – Master Resolution – Dormitory and Dining Hall System Bonds

Attachment B – Series Resolution – Dormitory and Dining Hall System Bonds

Attachment C – Master Resolution – University Services System Bonds

Attachment D – Series Resolution – University Services System Bonds

Attachment E - Master Resolution - Utility System Bonds

Attachment F – Series Resolution – Utility System Bonds

Attachment G – Master Resolution – Athletic System Bonds

Attachment H – Series Resolution – Athletic System Bonds

Attachment I – General Revenue Pledge Refunding Bonds Series 2015E

Attachment J – Preliminary Official Statement

Attachment K – Continuing Disclosure Agreement

Attachment L – Bond Purchase Agreement

AMENDED AND RESTATED RESOLUTION

AUTHORIZING AND SECURING DORMITORY AND DINING HALL SYSTEM REVENUE BONDS

AN AMENDED AND RESTATED RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY DORMITORY AND DINING HALL SYSTEM REVENUE BONDS; PROVIDING FOR A DORMITORY AND DINING HALL SYSTEM FOR OPERATING AND FINANCING PURPOSES; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF, THE PREMIUM, IF ANY, AND THE INTEREST ON SUCH BONDS THE NET REVENUES OF THE DORMITORY AND DINING HALL SYSTEM AS PROVIDED HEREIN; AND SETTING FORTH THE RIGHTS AND REMEDIES OF THE HOLDERS OF SUCH BONDS.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. On August 26, 1996, the Board adopted a resolution entitled "Resolution Authorizing and Securing Dormitory and Dining Hall System Revenue Bonds" (the "1996 Master Resolution") pursuant to which it formed a single system for the purpose of operating and financing its dormitory and dining hall facilities (the "Dormitory and Dining Hall System") with bonds issued under Chapter 3 (§ 23-14 et seq.) of Title 23 (the "General Higher Education Bond Act") subject to the requisite approvals of the General Assembly, the Governor and the Treasury Board of the Commonwealth of Virginia (the "Commonwealth").
- D. Pursuant to a resolution entitled "Series Resolution Authorizing and Securing Dormitory and Dining Hall System and General Revenue Pledge Refunding Bonds, Series 2004B" adopted by the Board on March 29, 2004 (the "2004 Series Resolution"), the University issued its revenue bonds, payable from and secured by, among things, the revenues of the Dormitory and Dining Hall System in the original aggregate principal amount of \$1,265,000 and designated "Dormitory and Dining Hall System and General Revenue Pledge Refunding Bonds, Series 2004B" dated May 1, 2004 (the "Series 2004B Bonds"). The payment of principal of and interest on the Series 2004B Bonds is insured by a Financial Guaranty Insurance Policy (the "2004 Bond Insurance Policy") issued by Ambac Assurance Corporation ("Ambac").

- E. Contemporaneously with the effective date of, and issuance of the initial Series of Bonds under, this Resolution, moneys of the University will have been applied to optionally redeem all of the Series 2004B Bonds, and there will be no other bonds issued and outstanding under the 1996 Master Resolution.
- F. Section 10.3 of the 1996 Master Resolution provides that it may be amended and modified by the Board with the consent of the Governor and the Treasury Board of the Commonwealth and the holders of the requisite percentage in aggregate principal amount of bonds then outstanding specified therein.
- G. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project, and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to the General Higher Education Bond Act.
- H. As provided in Section 23-38.108 of the Act, bonds issued by the University pursuant thereto may be payable as to principal and interest from, among other sources, any or all of (1) its revenues generally, (2) income and revenues derived from the operation of a particular project or projects, whether or not they are financed or refinanced from the proceeds of such bonds, or (3) other available funds of the University.
- I. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to the General Higher Education Bond Act.
- J. The Act is silent on certain rights typically afforded to the holders of bonds issued by institutions of higher education and permits the University to determine those rights. It is the intent of the University that the holders of the Bonds shall have rights comparable to those provided to the holders of bonds issued under the General Higher Education Bond Act pursuant to Sections 23-20 and 23-26 of the Code of Virginia of 1950, as amended.
- K. The Board has determined not to issue any additional bonds under the 1996 Master Resolution and to amend, supplement and restate in its entirety the 1996 Master Resolution all in the manner hereinafter set forth with the consent of the Governor and Treasury Board of the Commonwealth, but without the consent of Ambac or the holders of the Series 2004B Bonds which will have been redeemed in full and, therefore, will not be affected by such modifications to the 1996 Master Resolution, for the purpose of

maintaining a single system for the operation and financing of its existing dormitory and dining hall facilities originally established pursuant to the 1996 Master Resolution and any additional dormitory and dining hall facilities financed or refinanced with Bonds issued under this Resolution while (1) providing additional operational flexibility for the dormitory and dining hall system not contemplated by the 1996 Master Resolution and (2) facilitating the issuance of Bonds and setting forth the rights of the holders thereof without oversight from the General Assembly, the Governor and the Treasury Board required by the General Higher Education Bond Act and the 1996 Master Resolution, but no longer applicable by the terms of the Act.

RECOMMENDATION:

That the resolution authorizing and securing the Dormitory and Dining Hall System Revenue Bonds be approved.

August 31, 2015

AMENDED AND RESTATED RESOLUTION

AUTHORIZING AND SECURING DORMITORY AND DINING HALL SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015A

A SERIES RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY DORMITORY AND DINING HALL SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015A, TO PAY A PORTION OF THE COST OF CONSTRUCTING AND FURNISHING TWO RESIDENTIAL FACILITIES; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF AND THE INTEREST ON SUCH BONDS CERTAIN GENERAL REVENUES AND THE NET REVENUES OF THE UNIVERSITY'S DORMITORY AND DINING HALL SYSTEM AS PROVIDED HEREIN; AWARDING THE BONDS; APPOINTING THE PAYING AGENT.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth of Virginia which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.
- D. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.

- E. The Board has adopted an amended and restated resolution providing for the issuance of dormitory and dining hall system revenue bonds pursuant to the Act (the "Master Resolution").
- F. The Board has heretofore determined to construct and furnish two residential facilities, each containing approximately 97,000 gross square feet, which together will house approximately 1,100 student beds (the "Project"), which will become a part of the University's Dormitory and Dining Hall System (the "System").
 - G. The Board has determined that the Project may be financed under the Act.
- H. For the purpose of providing funds to finance a portion of the costs of the Project and costs to be incurred in connection with the issuance thereof, the Board has determined to issue dormitory and dining hall system and general revenue pledge bonds of the University (the "Bonds") under the Master Resolution pursuant to this Series Resolution.
- I. The Board has ascertained (a) the estimated annual revenues to be derived by the University from its operation and ownership of the System based on the fees, rents and charges to be fixed, charged and collected for or in connection with the use, occupation or services of the facilities comprising the System, and (b) the estimated annual expenses of maintaining, repairing and operating the System, and has determined that sufficient revenues will be derived from its operation and ownership of the System, after the payment of such expenses of maintenance, repair and operation to pay the principal of and the interest on the Bonds hereinafter authorized to be issued under this Series Resolution and to meet other requirements of this Series Resolution and the Master Resolution.
- J. The Board has determined that the Bonds will also be secured by a pledge of certain general revenues of the University as contemplated by the Act and as more particularly described herein.

RECOMMENDATION:

That the resolution authorizing and securing the Dormitory and Dining Hall System General Revenue Pledge Bonds, Series 2015A, be approved.

AMENDED AND RESTATED RESOLUTION

AUTHORIZING AND SECURING UNIVERSITY SERVICES SYSTEM REVENUE BONDS

AN AMENDED AND RESTATED RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY UNIVERSITY SERVICES SYSTEM REVENUE BONDS; PROVIDING FOR A UNIVERSITY SERVICES SYSTEM FOR OPERATING AND FINANCING PURPOSES; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF, THE PREMIUM, IF ANY, AND THE INTEREST ON SUCH BONDS THE NET REVENUES OF THE UNIVERSITY SERVICES SYSTEM AS PROVIDED HEREIN; AND SETTING FORTH THE RIGHTS AND REMEDIES OF THE HOLDERS OF SUCH BONDS.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. On August 26, 1996, the Board adopted a resolution entitled "Resolution Authorizing and Securing University Services System Revenue Bonds" (the "1996 Master Resolution") pursuant to which it formed a single system for the purpose of operating and financing its university services facilities (the "University Services System") with bonds issued under Chapter 3 (§ 23-14 et seq.) of Title 23 (the "General Higher Education Bond Act") subject to the requisite approvals of the General Assembly, the Governor and the Treasury Board of the Commonwealth of Virginia (the "Commonwealth").
- D. Pursuant to a resolution entitled "Series Resolution Authorizing and Securing University Services System and General Revenue Pledge Refunding Bonds, Series 2004C" adopted by the Board on March 29, 2004 (the "2004 Series Resolution"), the University issued its revenue bonds, payable from and secured by, among things, the revenues of the University Services System in the original aggregate principal amount of \$15,105,000 and designated "University Services System and General Revenue Pledge Refunding Bonds, Series 2004C" dated May 1, 2004 (the "Series 2004C Bonds"). The payment of principal of and interest on the Series 2004C Bonds is insured by a Financial Guaranty Insurance Policy (the "2004 Bond Insurance Policy") issued by Ambac Assurance Corporation ("Ambac").

- E. Contemporaneously with the effective date of, and issuance of the initial Series of Bonds under, this Resolution, moneys of the University will have been applied to optionally redeem all of the Series 2004C Bonds, and there will be no other bonds issued and outstanding under the 1996 Master Resolution.
- F. Section 10.3 of the 1996 Master Resolution provides that it may be amended and modified by the Board with the consent of the Governor and the Treasury Board of the Commonwealth and the holders of the requisite percentage in aggregate principal amount of bonds then outstanding specified therein.
- G. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project, and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to the General Higher Education Bond Act.
- H. As provided in Section 23-38.108 of the Act, bonds issued by the University pursuant thereto may be payable as to principal and interest from, among other sources, any or all of (1) its revenues generally, (2) income and revenues derived from the operation of a particular project or projects, whether or not they are financed or refinanced from the proceeds of such bonds, or (3) other available funds of the University.
- I. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to the General Higher Education Bond Act.
- J. The Act is silent on certain rights typically afforded to the holders of bonds issued by institutions of higher education and permits the University to determine those rights. It is the intent of the University that the holders of the Bonds shall have rights comparable to those provided to the holders of bonds issued under the General Higher Education Bond Act pursuant to Sections 23-20 and 23-26 of the Code of Virginia of 1950, as amended.
- K. The Board has determined not to issue any additional bonds under the 1996 Master Resolution and to amend, supplement and restate in its entirety the 1996 Master Resolution all in the manner hereinafter set forth with the consent of the Governor and Treasury Board of the Commonwealth, but without the consent of Ambac or the holders of the Series 2004C Bonds which will have been redeemed in full and,

therefore, will not be affected by such modifications to the 1996 Master Resolution, for the purpose of maintaining a single system for the operation and financing of its existing university services facilities originally established pursuant to the 1996 Master Resolution and any additional university services facilities financed or refinanced with Bonds issued under this Resolution while (1) providing additional operational flexibility for the university services system not contemplated by the 1996 Master Resolution and (2) facilitating the issuance of Bonds and setting forth the rights of the holders thereof without oversight from the General Assembly, the Governor and the Treasury Board required by the General Higher Education Bond Act and the 1996 Master Resolution, but no longer applicable by the terms of the Act.

RECOMMENDATION:

That the resolution authorizing and securing the University Services System Revenue Bonds be approved.

August 31, 2015

AMENDED AND RESTATED RESOLUTION

AUTHORIZING AND SECURING UNIVERSITY SERVICES SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015C

A SERIES RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY UNIVERSITY SERVICES SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015C, TO PAY A PORTION OF THE COST OF RESURFACING AND CONSTRUCTING NEW INFRASTRUCTURE FOR THE SOUTH RECREATION FIELD; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF AND THE INTEREST ON SUCH BONDS CERTAIN GENERAL REVENUES AND THE NET REVENUES OF THE UNIVERSITY'S UNIVERSITY SERVICES SYSTEM AS PROVIDED HEREIN; AWARDING THE BONDS; APPOINTING THE PAYING AGENT.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth of Virginia which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.
- D. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such

authority, that is granted to institutions of higher education pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.

- E. The Board has adopted an amended and restated resolution providing for the issuance of university services system revenue bonds pursuant to the Act (the "Master Resolution").
- F. The Board has heretofore determined to resurface the nine acres of the South Recreation Field with synthetic turf and construct new infrastructure for the creation of multiple fields and to allow for ongoing maintenance (the "Project"), which will become a part of the University's University Services System (the "System").
 - G. The Board has determined that the Project may be financed under the Act.
- H. For the purpose of providing funds to finance a portion of the costs of the Project and costs to be incurred in connection with the issuance thereof, the Board has determined to issue university services system and general revenue pledge bonds of the University (the "Bonds") under the Master Resolution pursuant to this Series Resolution.
- I. The Board has ascertained (a) the estimated annual revenues to be derived by the University from its operation and ownership of the System based on the fees, rents and charges to be fixed, charged and collected for or in connection with the use, occupation or services of the facilities comprising the System, and (b) the estimated annual expenses of maintaining, repairing and operating the System, and has determined that sufficient revenues will be derived from its operation and ownership of the System, after the payment of such expenses of maintenance, repair and operation to pay the principal of and the interest on the Bonds hereinafter authorized to be issued under this Series Resolution and to meet other requirements of this Series Resolution and the Master Resolution.
- J. The Board has determined that the Bonds will also be secured by a pledge of certain general revenues of the University as contemplated by the Act and as more particularly described herein.

RECOMMENDATION:

That the resolution authorizing and securing the University Services System General Revenue Pledge Bonds, Series 2015C, be approved.

AMENDED AND RESTATED RESOLUTION

AUTHORIZING AND SECURING UTILITY SYSTEM REVENUE BONDS

AN AMENDED AND RESTATED RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY UTILITY SYSTEM REVENUE BONDS; PROVIDING FOR A UTILITY SYSTEM FOR OPERATING AND FINANCING PURPOSES; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF, THE PREMIUM, IF ANY, AND THE INTEREST ON SUCH BONDS THE NET REVENUES OF THE UTILITY SYSTEM AS PROVIDED HEREIN; AND SETTING FORTH THE RIGHTS AND REMEDIES OF THE HOLDERS OF SUCH BONDS.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. On August 26, 1996, the Board adopted a resolution entitled "Resolution Authorizing and Securing Utility System Revenue Bonds" (the "1996 Master Resolution") pursuant to which it formed a single system for the purpose of operating and financing its utility facilities (the "Utility System") with bonds issued under Chapter 3 (§ 23-14 et seq.) of Title 23 (the "General Higher Education Bond Act") subject to the requisite approvals of the General Assembly, the Governor and the Treasury Board of the Commonwealth of Virginia (the "Commonwealth").
- D. Section 10.3 of the 1996 Master Resolution provides that it may be amended and modified by the Board with the consent of the Governor and the Treasury Board of the Commonwealth and the holders of the requisite percentage in aggregate principal amount of bonds then outstanding specified therein. There are currently no Bonds issued and outstanding under the 1996 Master Resolution.
- G. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of

the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project, and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to the General Higher Education Bond Act.

- H. As provided in Section 23-38.108 of the Act, bonds issued by the University pursuant thereto may be payable as to principal and interest from, among other sources, any or all of (1) its revenues generally, (2) income and revenues derived from the operation of a particular project or projects, whether or not they are financed or refinanced from the proceeds of such bonds, or (3) other available funds of the University.
- I. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to the General Higher Education Bond Act.
- J. The Act is silent on certain rights typically afforded to the holders of bonds issued by institutions of higher education and permits the University to determine those rights. It is the intent of the University that the holders of the Bonds shall have rights comparable to those provided to the holders of bonds issued under the General Higher Education Bond Act pursuant to Sections 23-20 and 23-26 of the Code of Virginia of 1950, as amended.
- K. The Board has determined not to issue any additional bonds under the 1996 Master Resolution and to amend, supplement and restate in its entirety the 1996 Master Resolution all in the manner hereinafter set forth with the consent of the Governor and Treasury Board of the Commonwealth, for the purpose of maintaining a single system for the operation and financing of its existing utility facilities originally established pursuant to the 1996 Master Resolution and any additional utility facilities financed or refinanced with Bonds issued under this Resolution while (1) providing additional operational flexibility for the utility system not contemplated by the 1996 Master Resolution and (2) facilitating the issuance of Bonds and setting forth the rights of the holders thereof without oversight from the General Assembly, the Governor and the Treasury Board required by the General Higher Education Bond Act and the 1996 Master Resolution, but no longer applicable by the terms of the Act.

RECOMMENDATION:

That the resolution authorizing and securing the Utility System Revenue Bonds be approved.

AMENDED AND RESTATED RESOLUTION

AUTHORIZING AND SECURING UTILITY SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015D

A SERIES RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY UTILITY SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015D, TO PAY A PORTION OF THE COST OF IMPROVING THE LANE SUBSTATION; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF AND THE INTEREST ON SUCH BONDS CERTAIN GENERAL REVENUES AND THE NET REVENUES OF THE UNIVERSITY'S UTILITY SYSTEM AS PROVIDED HEREIN; AWARDING THE BONDS; APPOINTING THE PAYING AGENT.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth of Virginia which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.
- D. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.

- E. The Board has adopted an amended and restated resolution providing for the issuance of utility system revenue bonds pursuant to the Act (the "Master Resolution").
- F. The Board has heretofore determined to make improvements to the Lane Substation to allow for additional electricity distribution capacity to support ongoing development of both the University's campus and corporate research center (the "Project"), which will become a part of the University's Utility System (the "System").
 - G. The Board has determined that the Project may be financed under the Act.
- H. For the purpose of providing funds to finance a portion of the costs of the Project and costs to be incurred in connection with the issuance thereof, the Board has determined to issue utility system and general revenue pledge bonds of the University (the "Bonds") under the Master Resolution pursuant to this Series Resolution.
- I. The Board has ascertained (a) the estimated annual revenues to be derived by the University from its operation and ownership of the System based on the fees, rents and charges to be fixed, charged and collected for or in connection with the use, occupation or services of the facilities comprising the System, and (b) the estimated annual expenses of maintaining, repairing and operating the System, and has determined that sufficient revenues will be derived from its operation and ownership of the System, after the payment of such expenses of maintenance, repair and operation to pay the principal of and the interest on the Bonds hereinafter authorized to be issued under this Series Resolution and to meet other requirements of this Series Resolution and the Master Resolution.
- J. The Board has determined that the Bonds will also be secured by a pledge of certain general revenues of the University as contemplated by the Act and as more particularly described herein.

RECOMMENDATION:

That the resolution authorizing and securing the Utility System General Revenue Pledge Bonds, Series 2015D, be approved.

AMENDED AND RESTATED RESOLUTION

AUTHORIZING AND SECURING ATHLETIC FACILITIES SYSTEM REVENUE BONDS

AN AMENDED AND RESTATED RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY ATHLETIC FACILITIES SYSTEM REVENUE BONDS; PROVIDING FOR AN ATHLETIC FACILITIES SYSTEM FOR OPERATING AND FINANCING PURPOSES; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF, THE PREMIUM, IF ANY, AND THE INTEREST ON SUCH BONDS THE NET REVENUES OF THE ATHLETIC FACILITIES SYSTEM AS PROVIDED HEREIN; AND SETTING FORTH THE RIGHTS AND REMEDIES OF THE HOLDERS OF SUCH BONDS.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. On March 29, 2004, the Board adopted a resolution entitled "Resolution Authorizing and Securing Athletic Facilities System Revenue Bonds" (the "2004 Master Resolution") pursuant to which it formed a single system for the purpose of operating and financing its athletic facilities (the "Athletic Facilities System") with bonds issued under Chapter 3 (§ 23-14 et seq.) of Title 23 (the "General Higher Education Bond Act") subject to the requisite approvals of the General Assembly, the Governor and the Treasury Board of the Commonwealth of Virginia (the "Commonwealth").
- D. Pursuant to a resolution entitled "Series Resolution Authorizing and Securing Athletic Facilities System and General Revenue Pledge Bonds, Series 2004D" adopted by the Board on March 29, 2004 (the "2004 Series Resolution"), the University issued its revenue bonds, payable from and secured by, among things, the revenues of the Athletic Facilities System in the original aggregate principal amount of \$56,870,000 and designated "Athletic Facilities System and General Revenue Pledge Bonds, Series 2004D" dated May 1, 2004 (the "Series 2004D Bonds"). The payment of principal of and interest on the Series 2004D Bonds is insured by a Financial Guaranty Insurance Policy (the "2004 Bond Insurance Policy") issued by Ambac Assurance Corporation ("Ambac").

- E. Contemporaneously with the effective date of, and issuance of the initial Series of Bonds under, this Resolution, moneys of the University will have been applied to optionally redeem all of the Series 2004D Bonds, and there will be no other bonds issued and outstanding under the 2004 Master Resolution.
- F. Section 10.3 of the 2004 Master Resolution provides that it may be amended and modified by the Board with the consent of the Governor and the Treasury Board of the Commonwealth and the holders of the requisite percentage in aggregate principal amount of bonds then outstanding specified therein.
- G. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project, and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to the General Higher Education Bond Act.
- H. As provided in Section 23-38.108 of the Act, bonds issued by the University pursuant thereto may be payable as to principal and interest from, among other sources, any or all of (1) its revenues generally, (2) income and revenues derived from the operation of a particular project or projects, whether or not they are financed or refinanced from the proceeds of such bonds, or (3) other available funds of the University.
- I. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to the General Higher Education Bond Act.
- J. The Act is silent on certain rights typically afforded to the holders of bonds issued by institutions of higher education and permits the University to determine those rights. It is the intent of the University that the holders of the Bonds shall have rights comparable to those provided to the holders of bonds issued under the General Higher Education Bond Act pursuant to Sections 23-20 and 23-26 of the Code of Virginia of 1950, as amended.
- K. The Board has determined not to issue any additional bonds under the 2004 Master Resolution and to amend, supplement and restate in its entirety the 2004 Master Resolution all in the manner hereinafter set forth with the consent of the Governor and Treasury Board of the Commonwealth, but without the consent of Ambac or the holders of the Series 2004D Bonds which will have been redeemed in full and,

therefore, will not be affected by such modifications to the 2004 Master Resolution, for the purpose of maintaining a single system for the operation and financing of its existing athletic facilities originally established pursuant to the 2004 Master Resolution and any additional athletic facilities financed or refinanced with Bonds issued under this Resolution while (1) providing additional operational flexibility for the athletic facilities system not contemplated by the 2004 Master Resolution and (2) facilitating the issuance of Bonds and setting forth the rights of the holders thereof without oversight from the General Assembly, the Governor and the Treasury Board required by the General Higher Education Bond Act and the 2004 Master Resolution, but no longer applicable by the terms of the Act.

RECOMMENDATION:

That the resolution authorizing and securing the Athletic Facilities System Revenue Bonds be approved.

August 31, 2015

AMENDED AND RESTATED RESOLUTION

AUTHORIZING AND SECURING ATHLETIC FACILITIES SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015B

A SERIES RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY ATHLETIC FACILITIES SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015B, TO PAY A PORTION OF THE COST OF CONSTRUCTING AN ATHLETIC FIELD HOUSE FACILITY; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF AND THE INTEREST ON SUCH BONDS CERTAIN GENERAL REVENUES AND THE NET REVENUES OF THE UNIVERSITY'S ATHLETIC FACILITIES SYSTEM AS PROVIDED HEREIN; AWARDING THE BONDS; APPOINTING THE PAYING AGENT.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth of Virginia which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.
- D. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.

- E. The Board has adopted an amended and restated resolution providing for the issuance of athletic facilities system revenue bonds pursuant to the Act (the "Master Resolution").
- F. The Board has heretofore determined to construct an approximate 120,000 gross square foot athletic field house facility programmed for multipurpose activities and sized to accommodate sufficient length, width and height necessary for football practice work (the "Project"), which will become a part of the University's Athletic Facilities System (the "System").
 - G. The Board has determined that the Project may be financed under the Act.
- H. For the purpose of providing funds to finance a portion of the costs of the Project and costs to be incurred in connection with the issuance thereof, the Board has determined to issue athletic facilities system and general revenue pledge bonds of the University (the "Bonds") under the Master Resolution pursuant to this Series Resolution.
- I. The Board has ascertained (a) the estimated annual revenues to be derived by the University from its operation and ownership of the System based on the fees, rents and charges to be fixed, charged and collected for or in connection with the use, occupation or services of the facilities comprising the System, and (b) the estimated annual expenses of maintaining, repairing and operating the System, and has determined that sufficient revenues will be derived from its operation and ownership of the System, after the payment of such expenses of maintenance, repair and operation to pay the principal of and the interest on the Bonds hereinafter authorized to be issued under this Series Resolution and to meet other requirements of this Series Resolution and the Master Resolution.
- J. The Board has determined that the Bonds will also be secured by a pledge of certain general revenues of the University as contemplated by the Act and as more particularly described herein.

RECOMMENDATION:

That the resolution authorizing and securing the Athletic Facilities System General Revenue Pledge Bonds, Series 2015B, be approved.

August 31, 2015

BOND RESOLUTION

AUTHORIZING AND SECURING GENERAL REVENUE PLEDGE REFUNDING BONDS SERIES 2015E

A RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY GENERAL REVENUE PLEDGE REFUNDING BONDS, SERIES 2015E; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF AND THE INTEREST ON SUCH BONDS CERTAIN GENERAL REVENUES OF THE UNIVERSITY AS PROVIDED HEREIN; AND SETTING FORTH THE RIGHTS AND REMEDIES OF THE HOLDERS OF SUCH BONDS.

RECITALS

- A. By Chapter 11, Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth of Virginia which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations or procedures adopted pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.
- D. For the purpose of providing funds to finance a portion of the cost of constructing and equipping improvements to the University's College of Veterinary Medicine, the University issued its General Revenue Pledge Bonds, Series 1992 (the "Series 1992 Bonds") pursuant to a resolution adopted by the Board on August 24, 1992.
- E. For the purpose of providing funds to finance a portion of the cost of constructing and equipping an education center in Falls Church, Virginia, the University

issued its General Revenue Pledge Bonds, Series 1995A (the "Series 1995 Bonds") pursuant to a resolution adopted by the Board on November 9, 1994.

- F. For the purpose of providing funds to finance a portion of the cost of (i) refunding the Series 1992 Bonds, (ii) refunding the Series 1995 Bonds, (iii) constructing and equipping a new architecture and engineering facility at the University, (iv) constructing and equipping improvements to the University's coal-fired power plant, (v) renovating the University's Continuing Education Center and Alumni Hall, and (vi) constructing improvements and additions to various athletic facilities at the University, the University issued its General Revenue Pledge Bonds, Series 1996A (the "Series 1996 Bonds") pursuant to a resolution adopted by the Board on August 26, 1996.
- G. For the purpose of providing funds to finance the cost of refunding the Series 1996 Bonds that financed the costs described in clauses (i), (iii), (iv) and (v) of paragraph F above, the University issued its General Revenue Pledge Refunding Bonds, Series 2004A (the "Series 2004 Bonds"), pursuant a resolution adopted by the Board on March 29, 2004.
- H. For the purpose of providing funds to finance the cost of refunding the Series 2004 Bonds, the Board has determined to adopt this resolution authorizing the issuance of general revenue pledge refunding bonds of the University.

RECOMMENDATION:

That the resolution authorizing and securing the General Revenue Pledge Refunding Bonds, Series 2015E, be approved.

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

AMENDED AND RESTATED RESOLUTION

AUTHORIZING AND SECURING DORMITORY AND DINING HALL SYSTEM REVENUE BONDS

ADOPTED ON AUGUST 31, 2015

EFFECTIVE ON _______, 2015, THE DATE SPECIFIED IN SECTION 13.9

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AN AMENDED AND RESTATED RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY DORMITORY AND DINING HALL SYSTEM REVENUE BONDS; PROVIDING FOR A DORMITORY AND DINING HALL SYSTEM FOR OPERATING AND FINANCING PURPOSES; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF, THE PREMIUM, IF ANY, AND THE INTEREST ON SUCH BONDS THE NET REVENUES OF THE DORMITORY AND DINING HALL SYSTEM AS PROVIDED HEREIN; AND SETTING FORTH THE RIGHTS AND REMEDIES OF THE HOLDERS OF SUCH BONDS.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. On August 26, 1996, the Board adopted a resolution entitled "Resolution Authorizing and Securing Dormitory and Dining Hall System Revenue Bonds" (the "1996 Master Resolution") pursuant to which it formed a single system for the purpose of operating and financing its dormitory and dining hall facilities (the "Dormitory and Dining Hall System") with bonds issued under Chapter 3 (§ 23-14 et seq.) of Title 23 (the "General Higher Education Bond Act") subject to the requisite approvals of the General Assembly, the Governor and the Treasury Board of the Commonwealth of Virginia (the "Commonwealth").
- D. Pursuant to a resolution entitled "Series Resolution Authorizing and Securing Dormitory and Dining Hall System and General Revenue Pledge Refunding Bonds, Series 2004B" adopted by the Board on March 29, 2004 (the "2004 Series Resolution"), the University issued its revenue bonds, payable from and secured by, among things, the revenues of the Dormitory and Dining Hall System in the original aggregate principal amount of \$1,265,000 and designated "Dormitory and Dining Hall System and General Revenue Pledge Refunding Bonds, Series 2004B" dated May 1, 2004 (the "Series 2004B Bonds"). The payment of principal of and interest on the Series 2004B Bonds is insured by a Financial Guaranty Insurance Policy (the "2004 Bond Insurance Policy") issued by Ambac Assurance Corporation ("Ambac").
- E. Contemporaneously with the effective date of, and issuance of the initial Series of Bonds under, this Resolution, moneys of the University will have been applied to optionally redeem all of the Series 2004B Bonds, and there will be no other bonds issued and outstanding under the 1996 Master Resolution.
- F. Section 10.3 of the 1996 Master Resolution provides that it may be amended and modified by the Board with the consent of the Governor and the Treasury Board of the

Commonwealth and the holders of the requisite percentage in aggregate principal amount of bonds then outstanding specified therein.

- G. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project, and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to the General Higher Education Bond Act.
- H. As provided in Section 23-38.108 of the Act, bonds issued by the University pursuant thereto may be payable as to principal and interest from, among other sources, any or all of (1) its revenues generally, (2) income and revenues derived from the operation of a particular project or projects, whether or not they are financed or refinanced from the proceeds of such bonds, or (3) other available funds of the University.
- I. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to the General Higher Education Bond Act.
- J. The Act is silent on certain rights typically afforded to the holders of bonds issued by institutions of higher education and permits the University to determine those rights. It is the intent of the University that the holders of the Bonds shall have rights comparable to those provided to the holders of bonds issued under the General Higher Education Bond Act pursuant to Sections 23-20 and 23-26 of the Code of Virginia of 1950, as amended.
- K. The Board has determined not to issue any additional bonds under the 1996 Master Resolution and to amend, supplement and restate in its entirety the 1996 Master Resolution all in the manner hereinafter set forth with the consent of the Governor and Treasury Board of the Commonwealth, but without the consent of Ambac or the holders of the Series 2004B Bonds which will have been redeemed in full and, therefore, will not be affected by such modifications to the 1996 Master Resolution, for the purpose of maintaining a single system for the operation and financing of its existing dormitory and dining hall facilities originally established pursuant to the 1996 Master Resolution and any additional dormitory and dining hall facilities financed or refinanced with Bonds issued under this Resolution while (1) providing additional operational flexibility for the dormitory and dining hall system not contemplated by the 1996 Master Resolution and (2) facilitating the issuance of Bonds and setting forth the rights of the holders thereof without oversight from the General Assembly, the Governor and the Treasury Board required by the General Higher Education Bond Act and the 1996 Master Resolution, but no longer applicable by the terms of the Act.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF VISITORS OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY:

ARTICLE I

DEFINITIONS

Section 1.1 <u>Definitions</u>. In addition to words and terms defined in the Recitals and elsewhere in this Resolution, the following words and terms as used in this Resolution shall have the following meanings, unless some other meaning is plainly intended:

"Additional Facilities" shall mean any additional dormitory, dining hall or other facilities or any part thereof and any additions, extensions and improvements to the System, which are financed or refinanced under the provisions of this Resolution, or the revenues from which have been added to Revenues pursuant to the provisions of Section 7.1.

"Annual Budget" shall mean the University's budget of Current Expenses of the System for a Fiscal Year adopted by the Board pursuant to the provisions of Section 5.5. The Board may consider the Annual Budget for the System as a separate budget or as a separate and identifiable component of the overall University budget.

"Authorized Officer" shall mean (i) in the case of the University, the President of the University, the Chief Financial Officer or the University Treasurer and, when used with reference to any act or document also means any other person authorized by appropriate action of the Board to perform such act or execute such document on behalf of the University; and (ii) in the case of the Paying Agent or the Custodian (if not the State Treasurer), the President, any Vice-President, any Assistant Vice-President, any Corporate Trust Officer or any Assistant Corporate Trust Officer of the Paying Agent or the Custodian, and when used with reference to any act or document also means any other person authorized to perform such act or execute such document by or pursuant to a resolution of the governing body of the Paying Agent or the Custodian.

"Balloon Bond" shall mean any Bond, 25% or more of the original principal amount of which matures during any consecutive 12 month period, if such maturing principal amount is not required to be amortized below such percentage by mandatory redemption or prepayment before such twelve-month period. Balloon Bond does not include any Bond that otherwise would be classified hereunder as a Put Bond.

"Board" shall mean the Board of Visitors of the University or, if said Board shall be abolished, the board or body succeeding to the principal functions thereof.

"Bond Counsel" shall mean any firm of attorneys selected by the University and experienced in the issuance of municipal bonds and matters relating to the exclusion of the interest thereon from gross income for federal income tax purposes, which may be an attorney or firm regularly providing services to the University, the Paying Agent, the Underwriters or any Bondholder.

"Bondholder," "Holder" or "holder" when used herein with respect to Bonds issued hereunder shall mean the holder or registered owner, as the case may be, of Bonds at the time issued and outstanding hereunder.

"Bonds" shall mean the bonds authorized under and secured by this Resolution.

"Business Day" shall mean a day other than (i) a Saturday, Sunday or other day on which banking institutions in the Commonwealth or the city in which the Designated Office of the Paying Agent is located are authorized or required by law to close or (ii) a day on which the New York Stock Exchange is closed.

"Chief Financial Officer" shall mean the University's chief financial officer, or such other officer of the University having similar duties as may be selected by the Board.

"Code" shall mean the Internal Revenue Code of 1986, as amended. Each citation to a Code section shall include the applicable temporary, proposed and permanent regulations, revenue rulings and revenue procedures.

"Commonwealth" shall mean the Commonwealth of Virginia.

"Construction Fund" shall mean the Virginia Polytechnic Institute and State University Dormitory and Dining Hall System Construction Fund, a special fund created and designated by Section 4.1.

"Cost," as applied to a Project, shall embrace the cost of building, constructing, reconstructing, erecting, extending, bettering, equipping and improving a Project and all obligations and expenses and all items of cost which are set forth in Section 4.2.

"Credit Facility Agreement" shall mean an irrevocable letter of credit, insurance policy, guaranty or surety bond providing for the payment of or guarantying the payment of principal and purchase price of and interest on Bonds when due.

"Credit Obligation" of the University shall mean any indebtedness incurred or assumed by the University for borrowed money and any other financing obligation of the University that, in accordance with generally accepted accounting principles consistently applied, is shown on the liability side of a balance sheet; provided, however, that Credit Obligation shall not include any portion of any capitalized lease payment directly appropriated from general funds of the Commonwealth or reasonably expected to be so appropriated as certified by the Chief Financial Officer or the University Treasurer, but only to the extent such appropriation is restricted by the Commonwealth to the payment of such capitalized lease obligation. Credit Obligation shall not include any Interest Rate Agreement.

"Current Expenses" shall mean the University's reasonable and necessary current expenses of maintenance, repair and operation of the System and shall include, without limiting the generality of the foregoing, all ordinary and usual expenses of maintenance, repair and operation, which may include expenses not annually recurring, premiums for insurance, all administrative, engineering and architectural expenses relating to maintenance, repair and operation, legal expenses, any reasonable payments to pension or retirement funds, and any other

expenses required or permitted to be paid by the University under the provisions of this Resolution or by law, but shall not include any reserves for extraordinary maintenance or repair, any allowance for depreciation, or any general administrative expenses of the University not attributable to the System, or any debt service amounts or other amounts payable on the Bonds, Parity Indebtedness, Parity Swap Obligations or Subordinate Obligations.

"Custodian" shall mean The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and its successors, or such other bank or financial institution designated by the University to hold funds under this Resolution.

"Debt Service Fund" shall mean the Virginia Polytechnic Institute and State University Dormitory and Dining Hall System Debt Service Fund, a special fund created and designated by Section 5.7.

"Designated Office" shall mean, when used in reference to the Paying Agent, the corporate trust office of the Paying Agent designated as such, which shall initially be 525 William Penn Place, 38th Floor, Pittsburgh, Pennsylvania 15259.

"Excluded Facilities" shall mean any Existing Facilities or Additional Facilities the revenues from which have been excluded from Revenues pursuant to the provisions of Section 7.1.

"Existing Facilities" shall mean the dormitory and dining hall facilities owned and/or operated by the University as of August 31, 2015, which are currently included in the University's Dormitory and Dining Hall System.

"Fiscal Year" shall mean the period commencing on the first day of July in any year and ending on the last day of June of the following year.

"Hedge Provider" shall mean the counterparty to any Interest Rate Agreement to which the University is a party.

"Interest Rate Agreement" shall mean an interest rate exchange, hedge or similar agreement, expressly identified in a certificate of an Authorized Officer of the University, executed at the settlement date therefor or effective date thereof and kept with the University's executed copy of the agreement, as being or as having been entered into in order to hedge the interest payable on all or a portion of any Credit Obligation, which agreement may include, without limitation, an interest rate swap, a forward or futures contract or an option (e.g. a call, put, cap, floor or collar) and which agreement does not constitute an obligation to repay money borrowed, credit extended or the equivalent thereof. An Interest Rate Agreement does not constitute a Credit Obligation hereunder.

"Net Revenues" for any particular period, shall mean the amount of the excess of the total of the amounts deposited into the Revenue Fund pursuant to Section 5.3 over the total of the Current Expenses for the System during such period.

"Parity Indebtedness" shall mean any Credit Obligation of the University which currently exists or which may be incurred in accordance with the terms of this Resolution that is secured on a parity with the pledge of Revenues herein.

"Parity Interest Rate Agreement" shall mean any Interest Rate Agreement, any portion of the payments by the University under which is on a parity as to right to payment from Revenues, and is equally and ratably secured by a pledge of such Revenues, with the holders of all Bonds issued under this Resolution.

"Parity Swap Obligations" shall mean the amounts payable by the University to the Hedge Provider pursuant to a Parity Interest Rate Agreement that, as specified in the Parity Interest Rate Agreement, are on a parity as to right to payment from Revenues, and are equally and ratably secured by a pledge of such Revenues, with the holders of all Bonds issued under this Resolution.

"Paying Agent" shall mean initially The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and its successors and any other corporation that may at any time be substituted in its place in accordance with Section 13.2 of this Resolution.

"Principal and Interest Requirements" shall mean the aggregate of the principal of (whether at maturity, by mandatory redemption or mandatory prepayment or acceleration) and interest on all outstanding Bonds payable during a particular Fiscal Year; provided that the amount of such payments shall be calculated in accordance with the assumptions set forth in Section 7.16.

"Project" shall mean the building, construction, reconstruction, execution, extension, betterment, equipping and improvement of any portion of the System, including Additional Facilities, as more particularly described in each Series Resolution.

"Put Bond" shall mean any Bond that is (i) payable or required to be purchased by or on behalf of the underlying obligor, at its owner's option, before its stated maturity date or (ii) payable or required to be purchased from the owner by or on behalf of the underlying obligor (other than at the owner's option) before its stated maturity date.

"Registrar" shall mean initially The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and any successor Registrar appointed pursuant to Section 13.2 of this Resolution.

"Reserve Fund" shall mean the Virginia Polytechnic Institute and State University Dormitory and Dining Hall System Reserve Fund, a special fund created and designated by Section 5.9.

"Reserve Fund Credit Facility Agreement" shall mean an irrevocable letter of credit, insurance policy, guaranty or surety bond providing for the deposit of or guarantying the deposit of the Reserve Fund Requirement with respect to a Series of Bonds into the Reserve Fund if the moneys held to the credit of the Debt Service Fund shall be insufficient for its purposes.

"Reserve Fund Requirement" shall mean with respect to a Series of Bonds an amount equal to the least of (i) the maximum Principal and Interest Requirement of such Series of Bonds for any Fiscal Year; (ii) 10% of the original proceeds (excluding accrued interest) of such Series of Bonds; and (iii) 125% of the average annual Principal and Interest Requirement of such Series of Bonds.

"Resolution" shall mean this Resolution, together with any Series Resolution and all other resolutions supplemental hereto as herein permitted.

"Revenue Fund" shall mean the Virginia Polytechnic Institute and State University Dormitory and Dining Hall System Revenue Fund, a special fund created and designated by Section 5.3.

"Revenues" for any particular period, shall mean the fees, rents and charges and other revenues derived by the University from its operation and ownership of the System during such period and deposited to the credit of the Revenue Fund pursuant to the provisions of Section 5.3, any additions to Revenues made pursuant to the provisions of Section 7.1, and any transfers to, and less any transfers from, the Revenue Fund pursuant to the provisions of Section 6.2, but shall not include (i) any moneys deposited or transferred to the credit of the Reserve Fund pursuant to the provisions of Section 5.9, or (ii) any revenues excluded from Revenues pursuant to the provisions of Section 7.1.

"Series," whenever used herein with respect to Bonds, shall mean all of the Bonds designated as being of the same series, authenticated and delivered in a simultaneous transaction, regardless of variations in maturity, interest rate, redemption and other provisions, and any Bonds thereafter authenticated and delivered upon transfer or exchange of or in lieu of or in substitution for (but not to refund) such Bonds as herein provided.

"Series Resolution" shall mean the resolution of the Board under which Bonds of any Series are or will be issued.

"State Treasurer" shall mean the State Treasurer of the Commonwealth.

"Subordinate Obligations" shall mean any obligations, whether or not Credit Obligations, issued or incurred by the University, including obligations under bonds, notes or Interest Rate Agreements, which are payable from the Net Revenues of the System subordinate and junior to the Bonds.

"Surplus Fund" shall mean the Virginia Polytechnic Institute and State University Dormitory and Dining Hall System Surplus Fund, a special fund created and designated by Section 5.4.

"System" shall mean the Existing Facilities and Additional Facilities, but shall not include any Excluded Facilities.

"University" shall mean Virginia Polytechnic Institute and State University, Blacksburg, Virginia, an educational institution and a public body and governmental instrumentality for the dissemination of education, and its successor or successors.

"Variable Rate Bond" means any Bond the interest rate on which is not established at the time of incurrence at a fixed or constant rate.

Section 1.2 <u>Rules of Construction/Use of Words and Phrases</u>. Words of the masculine gender shall be deemed and construed to include correlative words of the feminine and neuter genders. Unless the context shall otherwise indicate, the word "person" shall include corporations and associations, including public bodies, as well as natural persons. Singular words shall connote the plural number as well as the singular and vice versa.

All references in the Resolution to particular Articles or Sections are references to Articles or Sections of the Resolution unless otherwise indicated.

The headings and table of contents as used in the Resolution are solely for convenience of reference and shall not constitute a part of the Resolution nor shall they affect its meaning, construction or effect.

ARTICLE II

FORM, EXECUTION, DELIVERY AND REGISTRATION OF BONDS

Section 2.1 <u>Authorization of Bonds</u>. For the purpose of providing funds for paying the Cost of Projects permitted under the Act, there shall be issued, under the authority of the Act, Bonds of the University subject to the conditions hereinafter provided in Section 2.10. Except as otherwise provided in this Resolution, the principal of and the interest on all Bonds issued under the provisions of this Resolution shall be payable solely from the Debt Service Fund, and all of the covenants, agreements and provisions of this Resolution shall be for the benefit and security of all and singular the present and future holders of the Bonds issued and to be issued under this Resolution, without preference, priority or distinction as to lien or otherwise, except as otherwise hereinafter provided, of any one Bond over any other Bond by reason of priority in the issue, sale or negotiation thereof or otherwise.

Section 2.2 <u>Details of Bonds</u>. The definitive Bonds issued under the provisions of Section 2.10 shall be as permitted or required by the respective Series Resolution providing for the issuance of Bonds of any Series. All such Bonds may have endorsed thereon such legends or text as may be necessary or appropriate to conform to any applicable rules and regulations of any governmental authority or any usage or requirement of law with respect thereto.

The Bonds authorized hereunder may be issued in one or more Series that may be delivered from time to time. The University shall by Series Resolution authorize such Series and shall specify the following: the authorized principal amount of such Series; the purpose for which the Bonds are being issued; the date and terms of maturity or maturities of the Bonds of such Series, or the payment of the Bonds on the demand of the holder; the interest payment dates and the interest rate or rates on the Bonds of such Series, which may include variable, adjustable, convertible or other rates, original issue discounts and zero interest rate bonds, provided that the average net interest cost rate on such Series shall never exceed for such Series the maximum interest rate permitted by law in effect at the time such Series are issued; the denominations,

numbering, lettering and series designation of such Series of Bonds; the place or places of payment of such Bonds; the redemption prices for such Series of Bonds and any terms of redemption not inconsistent with the provisions of this Resolution which may include mandatory redemption at the election of the holder or registered owner thereof; the amount and date of each mandatory redemption requirement, if any, for such Series of Bonds; the use of proceeds of such Series of Bonds, including deposits required to be made into the Construction Fund and Reserve Fund, if any; any additional revenues of the University besides the Net Revenues of the System pledged to secure such Series of Bonds; and any other terms or provisions applicable to the Series of Bonds, not inconsistent with the provisions of this Resolution or the Act. All of the foregoing may be added by Series Resolutions adopted at any time and from time to time prior to the issuance of such Series of Bonds.

All Bonds shall be in registered form, shall be payable in lawful money of the United States of America and shall bear interest from the date specified in the Series Resolution which shall be payable by mail or wire, as provided in the Series Resolution, to the registered owner thereof. In addition, if and to the extent permitted by applicable law, the University may issue any or all Series of Bonds as certificated registered public obligations (represented by instruments) or as uncertificated registered public obligations (not represented by instruments) commonly known as book-entry obligations, combinations thereof, or such other obligations as may then be permitted by law. The University shall establish a system of registration and shall appoint such registrars, transfer agents, depositaries or other agents as may be necessary to cause the registration, registration of transfer and reissuance of the Bonds within a commercially reasonable time according to the then current industry standards and to cause the timely payment of interest, principal and premium payable with respect to the Bonds. Any such system may be effective for any Series then outstanding or to be subsequently issued, provided that if the University adopts a system for the issuance of uncertificated registered public obligations, it may permit thereunder the conversion, at the option of a holder of any Bond then outstanding, of a certificated registered public obligation to an uncertificated registered public obligation, and the reconversion of the same.

The form of Bonds may provide that the holder of any such Bond may demand payment of principal and interest from the University within a stated period after delivering notice to a designated agent for the University and providing a copy of the notice with the tender of the Bond to such agent. The designated agent for the University, in accordance with the terms of a remarketing or replacement agreement, may provide for the resale or redelivery of the Bonds on behalf of the University at a price provided for in the agreement in lieu of payment by the University on demand. If the Bonds shall not be resold or redelivered within a stated period, the agent for the University may be authorized to draw upon a previously executed Credit Facility Agreement between the University and one or more banks or other financial or lending institutions permitting the University to borrow interest and principal for payment upon a particular Series of Bonds to which such Credit Facility Agreement shall pertain. The particular form or forms of such demand provisions, the period or periods for payment of principal and interest after delivery of notice, the appointment of the agent for the University, the terms and provisions of the remarketing or replacement agreement, and the terms and provisions of the Credit Facility Agreement shall be as designated by a Series Resolution of the University

pertaining to each Series of Bonds to which such terms and provisions are applicable, prior to the sale thereof.

The principal of, premium, if any, and the interest on the Bonds shall be payable in any coin or currency of the United States of America which on the respective dates of payment thereof is legal tender for the payment of public and private debts. The principal of the Bonds of each Series shall be payable at the Designated Office or Offices of the Paying Agent, designated in the resolution of the Board awarding the Bonds of such Series, or at the office of the State Treasurer, in the City of Richmond, Virginia or both, as provided in the Series Resolutions. Interest on the Bonds to the respective maturities thereof shall be paid by check or draft mailed, or wire transfer made, by the Paying Agent to the registered owners thereof on the appropriate record date, as set forth in the Series Resolution.

Section 2.3 Form of Bonds. The Bonds issued hereunder shall be in the form set forth in the respective Series Resolution.

Section 2.4 Execution of Bonds. The Bonds shall be executed in the name and on behalf of the University by its President and its Chief Financial Officer or its Treasurer, and the official seal of the University shall be imprinted, reproduced or lithographed on the Bonds. The signatures on the Bonds may be by facsimile, but one such officer shall sign his manual signature on the Bonds unless the Registrar shall be authorized and directed to cause one of its duly authorized signatories to manually execute the Bonds. In case any of the officers who shall have signed or attested any of the Bonds shall cease to be such officer or officers of the University before the Bonds so signed or attested shall have been authenticated or delivered by the Registrar or issued by the University, such Bonds may nevertheless be authenticated, delivered and issued and, upon such authentication, delivery and issue, shall be as binding upon the University as though those who signed and attested the same had continued to be such officers of the University. Any Bond may be signed and attested on behalf of the University by such persons as at the actual date of execution of such Bond shall be the proper officers of the University although at the nominal date of such Bond any such person shall not have been such officer of the University.

Only such of the Bonds as shall bear thereon a certificate of authentication, manually executed by the Registrar, shall be valid or obligatory for any purpose or entitled to the benefits of this Resolution, and such certificate of the Registrar shall be conclusive evidence that the Bonds so authenticated have been duly executed, authenticated and delivered hereunder and are entitled to the benefits of this Resolution.

Section 2.5 Transfer of Bonds. Any Bond may, in accordance with its terms, be transferred, upon the books required to be kept pursuant to the provisions of Section 2.7 by the person in whose name it is registered, in person or by his duly authorized attorney, upon surrender of such Bond for cancellation, accompanied by delivery of a written instrument of transfer, duly executed in a form approved by the Registrar.

Whenever any Bond or Bonds shall be surrendered for registration of transfer, the University shall execute and the Registrar shall authenticate and deliver a new Bond or Bonds, of

authorized denominations of the same Series, maturity, interest rate and for a like aggregate principal amount. Such transfer shall be without charge to the holder, except that the Registrar shall require the Bondholder requesting such transfer to pay any tax or other governmental charge required to be paid with respect to such transfer.

Section 2.6 <u>Exchange of Bonds</u>. Bonds may be exchanged at the designated office of the Registrar for a like aggregate principal amount of Bonds of other authorized denominations of the same Series, maturity and interest rate. Such exchange shall be without charge to the holder, except that the Registrar shall require the Bondholder requesting such exchange to pay any tax or other governmental charge required to be paid with respect to such exchange.

Section 2.7 <u>Bond Register; Notices</u>. The Registrar will keep or cause to be kept, at its designated office sufficient books for the registration and transfer of the Bonds, which shall at all times during regular business hours be open to inspection by the University and the Paying Agent; and, upon presentation for such purpose, the Registrar shall, under such reasonable regulations as it may prescribe, register or cause to be registered, on such books, the transfer or exchange of Bonds as hereinbefore provided. No registration of transfer of a Bond shall be required to be made from a record date to the next succeeding interest payment date or if a Bond shall have been selected or called for redemption. No exchange of a Bond shall be required to be made from a record date to the next succeeding interest payment date or if a Bond shall have been selected or called for redemption. Notices sent to Bondholders pursuant to this Resolution shall be sent to the addresses shown on the registration books maintained by the Registrar or such other address as may be filed with the Registrar for such purpose. All notices required to be given by mail shall be given by first class mail, postage prepaid.

In addition to the other obligations imposed on the Registrar hereunder, the Registrar shall agree to deliver upon request a list of the names and addresses of the registered owners of the Bonds, as follows:

- (a) to any Bondholder, if an Event of Default shall have occurred and be continuing;
- (b) to the Paying Agent, the University or the provider of a Reserve Fund Credit Facility Agreement or Credit Facility Agreement, at any time; and
- (c) to the registered holders of 25% or more in aggregate principal amount of Bonds then outstanding, at any time.

Section 2.8 Temporary Bonds. The Bonds may be issued in temporary form exchangeable for definitive Bonds when ready for delivery. Any temporary Bond may be printed, lithographed or typewritten, shall be of such denomination as may be determined by the University and may contain such reference to any of the provisions of this Resolution as may be appropriate. A temporary Bond may be in the form of a single Bond payable in installments, each on the date, in the amount and at the rate of interest established for the Bonds maturing on such date. Every temporary Bond shall be executed by the University and be authenticated by the Registrar upon the same conditions and in substantially the same manner as the definitive

Bonds. If the University issues temporary Bonds it will execute and deliver definitive Bonds as promptly thereafter as practicable, and thereupon the temporary Bonds may be surrendered, for cancellation, in exchange therefor at the designated office of the Registrar and the Registrar shall authenticate and deliver in exchange for such temporary Bonds an equal aggregate principal amount of definitive Bonds of authorized denominations of the same maturity or maturities and interest rate. Until so exchanged, the temporary Bonds shall be entitled to the same benefits under this Resolution as definitive Bonds authenticated and delivered hereunder.

Section 2.9 Bonds Mutilated, Lost, Destroyed or Stolen. If any Bond shall become mutilated, the University, at the expense of the owner of said Bond, shall execute, and the Registrar shall thereupon authenticate and deliver, a new Bond of like tenor bearing a different number in exchange and substitution for the Bond so mutilated, but only upon surrender to the Registrar of the Bond so mutilated. Every mutilated Bond so surrendered to the Registrar shall be canceled by it and delivered to, or upon the order of, the University. If any Bond shall be lost, destroyed or stolen, evidence of the ownership thereof and of such loss, destruction or theft may be submitted to the University and the Registrar and, if such evidence be satisfactory to both of them and indemnity satisfactory to them shall be given, the University, at the expense of the owner, shall execute, and the Registrar shall thereupon authenticate and deliver, a new Bond of like tenor bearing a different number in lieu of and in substitution for the Bond so lost, destroyed or stolen (or if any such Bond shall have matured or shall be about to mature, instead of issuing a substitute Bond, the University may pay the same without surrender thereof). The University may require payment of a sum not exceeding the actual cost of preparing each new Bond issued under this Section and of the related expenses which may be incurred by the University, the Registrar and the Paying Agent. Any Bond issued under the provisions of this Section in lieu of any Bond alleged to be lost, destroyed or stolen shall constitute an original additional contractual obligation on the part of the University whether or not the Bond so alleged to be lost, destroyed or stolen be at any time enforceable by anyone, and shall be entitled to the benefits of this Resolution with all other Bonds secured by this Resolution.

Section 2.10 <u>Terms and Conditions for Issuance of Bonds</u>. Bonds of the University may be issued under and secured by this Resolution, subject to the conditions hereinafter provided in this Section, from time to time for the purpose of providing funds for paying all or any part of the Cost of the System, including any Additional Facilities, or for the purpose of refunding any Bonds, or other obligations of the University or portions thereof issued to finance University dormitory and dining hall facilities, then outstanding.

Before any Bonds shall be issued under the provisions of this Section, the Board shall adopt a Series Resolution authorizing the issuance of such Bonds. The Bonds of each Series issued under the provisions of this Section shall be designated "Dormitory and Dining Hall System Revenue Bonds, Series ____ " (with appropriate modifications designated by the University to reflect additional pledged revenues, credit enhancement, variable interest rates or the like), shall be numbered, shall be dated, shall bear interest at a rate or rates not exceeding the maximum rate then permitted by law, shall be stated to mature on the date or dates specified therein, and shall be made redeemable at such times and prices (subject to the provisions of Article III of this Resolution), all as may be provided by the Series Resolution authorizing the issuance of such Bonds. Except as to any differences in the maturities thereof or in the rate or

rates of interest or the provisions for redemption or the provisions regarding the Reserve Fund or the pledge of additional revenues of the University besides the Net Revenues of the System, all such Bonds shall be on a parity with and shall be entitled to the same benefit and security of this Resolution. Such Bonds shall be executed in the form and manner hereinabove set forth and shall be deposited with the Registrar for delivery, but before Bonds shall be delivered by the Registrar, there shall be filed with the Registrar the following:

- (a) a copy, certified by the Secretary of the Board, of the Series Resolution mentioned above;
- (b) a copy, certified by the Secretary of the Board, of the resolution adopted by the Board awarding such Bonds, specifying the interest rate (or method or parameters for computing such interest rate) for each of such Bonds and the deposit, if any, to the Reserve Fund to secure such Bonds, and directing the delivery of such Bonds to or upon the order of the purchasers named therein upon payment of the specified purchase price;
- (c) if the Bonds are being issued to pay the Cost of a Project, a statement, signed by an Authorized Officer, certifying that (i) the Project described in the Series Resolution authorizing the issuance of such Bonds will, in his or her opinion, preserve, develop, extend or improve the System, and (ii) taking into account the issuance of such Bonds the University expects to have sufficient Net Revenues of the System and other available funds to meet its obligations to pay principal and interest and other amounts, as and when due and payable in accordance with their terms, on all Bonds issued under this Resolution and all Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such Bonds and (B) the completion of all Projects financed with the proceeds of such Bonds, and (iii) such Authorized Officer has no reason to believe that Net Revenues of the System and other available funds will not be sufficient to pay all amounts, as and when due and payable in accordance with their terms, on all Bonds issued under this Resolution and all Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations during the term of such Bonds;
- (d) a certificate, signed by an Authorized Officer, stating that to the best of his or her knowledge the University is not then in default in the performance and observance of any of the covenants, conditions, agreements or provisions contained in this Resolution; and
- (e) an opinion of Bond Counsel stating that the Bonds have been duly authorized, executed and delivered in accordance with the Act and this Resolution and constitute valid and binding limited obligations of the University, payable solely from the Net Revenues of the System and other property and revenues pledged therefor under this Resolution or the Series Resolution.

When the documents mentioned above in this Section shall have been filed with the Registrar and when the Bonds described in the resolutions mentioned in clauses (a) and (b) of this Section shall have been executed as required by this Resolution, the Registrar shall deliver such Bonds to or upon the order of the purchasers named in the resolution mentioned in clause (b), but only upon payment to the Custodian of the purchase price of such Bonds. The Registrar shall be entitled to rely upon such resolution as to the names of the purchasers, the interest rate of each of such Bonds and the amount of such purchase price.

The provisions of clause (c) above of this Section 2.10 shall not apply to the first Series of Bonds issued hereunder.

The proceeds (excluding accrued interest) of such Bonds shall be deposited to the credit of the Construction Fund and applied to the payment of the Cost of such Project, except if the Bonds or a portion thereof are being issued to reimburse the University for Costs of the Project previously incurred by the University or to refund Bonds or other University obligations then outstanding, in which case such portion of the proceeds shall be paid to or on account of the University. If such Bonds are to be secured by the Reserve Fund, prior to such deposit to the Construction Fund or payment to or for the account of the University, the Custodian shall deduct from such proceeds and deposit to the credit of the Reserve Fund the amount, if any, to be so deposited as set forth in the Series Resolution for such Bonds.

If Bonds are issued for the purpose of refunding any or all of the Bonds or other University obligations then outstanding, the requirements set forth in clause (c)(i) above of this Section 2.10 shall not apply.

The amount received as accrued interest on such Bonds shall be deposited to the credit of the Debt Service Fund.

- Section 2.11 <u>Additional Indebtedness</u>. The University may incur or issue other Credit Obligations payable from or secured by Net Revenues of the System only if the conditions set forth below in subsection (a), (b), (c) or (d) are met in each instance:
 - (a) Section 9(c) Credit Obligations. Notwithstanding any provision of this Resolution, any Credit Obligation issued by or on behalf of the University pursuant to Article X, Section 9(c) of the Constitution of Virginia, as such section may be amended from time to time, that is secured by a pledge of all or any portion of the Net Revenues shall without further action (including any action required pursuant to Section 2.10 or Section 2.11(b)) automatically be deemed to be Parity Indebtedness secured on a parity basis with all Bonds issued pursuant to this Resolution, unless expressly subordinated to the pledge of Net Revenues herein.
 - (b) <u>Limitation on Other Parity Indebtedness</u>. The University may incur, assume, guarantee or otherwise become liable on any other Parity Indebtedness, including any Credit Obligation incurred pursuant to the provisions of Article X, Section 9(d) of the Constitution of Virginia, as such section may be amended from time to time, but only if, prior to the incurrence of such Parity Indebtedness, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Parity Indebtedness (i) the University expects to have sufficient Net Revenues of the System and other available funds to meet its obligations to pay principal and

interest and other amounts, as and when due and payable in accordance with their terms, on all Credit Obligations and Parity Swap Obligations secured by a pledge of such Net Revenues for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such Parity Indebtedness and (B) the completion of any facility financed with the proceeds of such Parity Indebtedness, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable in accordance with their terms, under all indebtedness and Interest Rate Agreements of the University secured by a pledge of such Net Revenues during the term of such proposed Parity Indebtedness, and (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of this Resolution. Any such Parity Indebtedness shall be designated by the University as Parity Indebtedness and shall be secured by a pledge of Net Revenues of the System on a parity with the pledge of Net Revenues of the System herein, unless expressly subordinated to the pledge hereof.

- (c) <u>Limitation on Issuance of Parity Indebtedness</u>. Except for Credit Obligations issued or incurred pursuant to subsections (a) or (b) above or to refund any Parity Indebtedness and other Bonds issued pursuant to Section 2.10, no additional bonds or other obligations may be issued or incurred by the University on a parity with any Bonds as to payment from Net Revenues of the System.
- (d) <u>Subordinate Obligations</u>. The University may issue Subordinate Obligations without restriction so long as they are payable from and secured by a pledge of the Net Revenues of the System junior and subordinate in all respects to the liens, pledges, covenants and agreements of this Resolution relating to the Net Revenues of the System for the benefit of holders of the Bonds.
- Section 2.12 <u>Parity Interest Rate Agreements</u>. The University may enter into Parity Interest Rate Agreements pursuant to which regularly scheduled payments thereon are on a parity with the holders of Bonds issued hereunder as to the right to payment from Revenues. Termination payments or any other payments, except regularly scheduled payments, on any Interest Rate Agreement, whether or not a Parity Interest Rate Agreement, must be subordinate to the holders of Bonds issued hereunder as to right of payment from Revenues.

ARTICLE III

REDEMPTION

Section 3.1 Redemption of Bonds. The Bonds of any Series issued under the provisions of this Resolution shall be made subject to redemption, both in whole and in part and at such times and prices, as may be provided in the Series Resolution authorizing the issuance of such Bonds.

If less than all of the Bonds of any one maturity of a Series shall be called for redemption, the particular Bonds to be redeemed from such Series shall be selected in such manner as shall be provided in the Series Resolution.

- **Section 3.2** <u>Redemption Notice</u>. Notice of redemption shall be given as set forth in the Series Resolution for each Series of Bonds.
- Section 3.3 <u>Effect of Calling for Redemption</u>. On the date so designated for redemption, notice having been published or mailed in the manner and under the conditions hereinabove provided and moneys for payment of the redemption price being held in separate accounts by the Paying Agent in trust for the holders of the Bonds to be redeemed, all as provided in this Resolution, the Bonds so called for redemption shall become and be due and payable at the redemption price provided for redemption of such Bonds on such date, interest on the Bonds so called for redemption shall cease to accrue, such Bonds shall cease to be entitled to any benefit or security under this Resolution and the holders or registered owners of such Bonds shall have no rights with respect thereto except to receive payment of the redemption price. Bonds so redeemed shall be canceled upon surrender.
- Section 3.4 <u>Bonds Redeemed Not Deemed Outstanding</u>. Bonds which have been duly called for redemption under the provisions of this Article, or with respect to which irrevocable instructions to call for redemption have been given by or on behalf of the University and for the payment of the redemption price of which moneys shall be held in separate accounts by the Paying Agent in trust for the holders of the Bonds to be redeemed, all as provided in this Resolution, shall not thereafter be deemed to be outstanding under the provisions of this Resolution.

ARTICLE IV

CUSTODY AND APPLICATION OF PROCEEDS OF BONDS

Section 4.1 Construction Fund. The University shall create or cause to be created a fund designated "The Virginia Polytechnic Institute and State University Dormitory and Dining Hall System Construction Fund" (the "Construction Fund") to be administered by the University, to the credit of which there shall be deposited the proceeds of all Bonds required to be so deposited by the Series Resolution authorizing such Bonds. There may also be deposited to the credit of the Construction Fund any moneys received from any other source for paying the Cost of the Project described in such Series Resolution if the University shall have received an opinion of Bond Counsel that such deposit will not cause the interest on the Bonds to be includable in gross income for federal income tax purposes. The moneys in the Construction Fund shall be held in trust and applied to the payment of the Cost of such Project and, pending such application, shall be subject to a lien and charge in favor of the holders of the Bonds issued and outstanding under this Resolution and for the future security of such holders until paid out or transferred as herein provided. Separate accounts may be created in the Construction Fund to hold moneys allocable to different Projects, as may be required by the Series Resolutions.

Section 4.2 <u>Items of Cost of Project</u>. For the purposes of this Resolution, the Cost of each Project shall include, without intending thereby to limit or restrict or to extend any proper definition of such Cost under any applicable laws or this Resolution, any or all of the following:

- (a) obligations incurred for labor and materials and to contractors, builders and materialmen in connection with the Project;
- (b) the cost of acquiring by purchase, if such purchase shall be deemed expedient, and the amount of any award or final judgment in or any settlement or compromise of any proceeding to acquire by condemnation, such lands, property, rights, rights of way, franchises, easements and other interests as may be deemed necessary or convenient by the Board for the construction and operation of the Project, options and partial payments thereon, and the amount of any damages incident to or consequent upon such construction and operation;
 - (c) the cost of furnishing and equipping the Project;
- (d) interest on the applicable series of Bonds prior to and during construction of the Project and for one year thereafter;
- (e) taxes or other municipal or governmental charges lawfully levied or assessed during construction of the Project or any property acquired therefor, and premiums on insurance, if any, in connection with the Project during construction; fees and expenses of engineers and architects for surveys and estimates and other preliminary investigations, preparation of plans, drawings and specifications and supervising construction, as well as for the performance of all other duties of engineers and architects in relation to the construction of the Project or the issuance of Bonds therefor;
- (f) expenses of administration properly chargeable to the Project, legal expenses and fees, fees and expenses of consultants, financing charges (including Reserve Fund Credit Facility Agreement and Credit Facility Agreement fees), cost of audits and of preparing and issuing the Bonds, and all other items of expense not elsewhere in this Section specified incident to the construction and equipping of the Project and the placing of the Project in operation; and
- (g) any obligation, including interim financing, or expenses heretofore or hereafter incurred by the University or by any other agency of the Commonwealth in connection with the Project for any of the foregoing purposes.
- Section 4.3 <u>Capitalized and Accrued Interest</u>. The University may set aside from the proceeds of any Bonds issued under this Resolution and deposit to the credit of a separate interest account in the Construction Fund the amount of capitalized interest set forth in a certificate executed by an Authorized Officer of the University and included as a part of the original transcript relating to the issuance of such Bonds. The University may apply the money in such interest account to the payment of interest on such Bonds at such times and in such amounts as set forth in such certificate.
- Section 4.4 Payments from Construction Fund. Payment of the Cost of each Project shall be made from the Construction Fund and other available funds, all as provided by law. All payments from the Construction Fund shall be subject to the provisions and restrictions

set forth in this Article, and the Board covenants that it will not cause or permit to be paid from the Construction Fund any sums except in accordance with such provisions and restrictions.

Moneys in the Construction Fund shall be paid out based on invoices received by the University, the amounts stated in such invoices to be necessary for paying items of Cost of each Project.

The University shall maintain written records of withdrawals from the Construction Fund which shall reflect each amount to be paid, the name of the person, firm or corporation to whom each such payment is due and the purpose for which the obligation to be paid was incurred, that the goods or services specified have been received or performed, that payment therefor has not been previously authorized and that the expenditure is a proper charge to the Construction Fund.

Section 4.5 <u>Lands for Project</u>. The Board covenants that no part of the System has been or will be constructed on lands other than lands to which good and marketable title is owned or can be acquired by the University or the Commonwealth in fee simple unless the University has a perpetual easement over the lands to be used or has acquired a lesser right or interest in such lands which an Authorized Officer has certified will be sufficient for the University's purposes. The University further covenants that any such land will be free from all liens, encumbrances and defects of title except liens, encumbrances or defects of title which do not have a materially adverse effect upon the University's or the Commonwealth's right to use such lands or properties for the purposes intended or which have been adequately guarded by a bond or other form of indemnity.

Section 4.6 <u>Disposition of Balance in Construction Fund</u>. When each Project shall have been completed and placed in operation or abandoned, as evidenced by a certificate signed by an Authorized Officer and filed with the Secretary of the Board and accompanied by an opinion of the Attorney General or a special Assistant Attorney General of the Commonwealth that there are no unsatisfied mechanics', laborers', contractors' or materialmen's liens against the Project or on file in any public office where the same should be filed in order to be valid liens against the Project, and that, in the opinion of the signer, the time within which such liens can be filed has expired, any balance in the Construction Fund not deemed by the Board to be necessary to be reserved for the payment of any remaining part of the Cost of the Project shall be transferred to the credit of the Debt Service Fund and shall be invested at a yield not to exceed the lower of (l) the yield on the Bonds from which such moneys were derived or (2) the blended yield on the Bonds, until such moneys are used to purchase or redeem the Bonds on the earliest date on which an optional redemption may be permitted.

ARTICLE V

REVENUES AND FUNDS

Section 5.1 <u>Covenants as to Fees and Revenues</u>. The Board covenants that it will impose and collect fees, rents and charges for or in connection with the use, occupation or services of the System and that, from time to time and as often as it shall appear necessary, it will revise such fees, rents and charges as may be necessary or proper so that the moneys

deposited or transferred to the credit of the Revenue Fund in each Fiscal Year from any available funds, including without limitation any transfers thereto from the Surplus Fund, will be a sum at least equal to the total of the following:

- (a) the Current Expenses (excluding any Current Expenses attributable to any facilities that would become Excluded Facilities as a result of any such exclusion of Revenues) of the System for the current Fiscal Year as shown by the Annual Budget for such Fiscal Year;
- (b) 100% of the Principal and Interest Requirements for the current Fiscal Year, on account of the Bonds of each Series then outstanding;
- (c) 100% of the amounts required to be deposited into the Reserve Fund during the current Fiscal Year, as set forth in Section 5.9 and in the Series Resolutions; and
- (d) 100% of the debt service or other payment requirements for the current Fiscal Year on account of any Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations then outstanding.
- **Section 5.2** <u>Use of System</u>. Although the System currently consists of dormitory and dining hall facilities, the University may in its discretion use all or any portion of the System for any purpose permitted by law.
- Section 5.3 Revenue Fund. The University shall create or cause to be created a fund designated "Virginia Polytechnic Institute and State University Dormitory and Dining Hall System Revenue Fund" (the "Revenue Fund") to be held and administered by the University. The University covenants that all Revenues derived from the operation or ownership of the System will be credited to the Revenue Fund. All moneys in the Revenue Fund shall be held for the benefit of the holders of the Bonds and the outstanding Parity Indebtedness and Parity Swap Obligations and applied as hereinafter provided in this Article.
- **Section 5.4** <u>Surplus Fund</u>. The University shall create or cause to be created a fund designated "Virginia Polytechnic Institute and State University Dormitory and Dining Hall System Surplus Fund" (the "Surplus Fund") to be held and administered by the University. All moneys in the Surplus Fund shall be applied as hereinafter provided in this Article.
- **Section 5.5** Annual Budget. The Board covenants that on or before the first day of each Fiscal Year it will prepare and adopt a budget of Current Expenses for the System for such Fiscal Year (herein sometimes called the "Annual Budget").

If for any reason the Board shall not have adopted the Annual Budget before the first day of any Fiscal Year, the budget for the preceding Fiscal Year, shall, until the adoption of the Annual Budget, be deemed to be in force and shall be treated as the Annual Budget under the provisions of this Article.

The Board may at any time adopt an amended or supplemental Annual Budget for the remainder of the then current Fiscal Year, and when so adopted the Annual Budget so amended or supplemented shall be treated as the Annual Budget under the provisions of this Article.

Section 5.6 Payments from Revenue Fund. Current Expenses of the System shall be paid from the Revenue Fund as the same shall become due and payable.

Following the end of each quarter of each Fiscal Year, the University may withdraw from the Revenue Fund and transfer to the Surplus Fund an amount up to the amount of all moneys held for the credit of the Revenue Fund on the last day of such quarter (a) less an amount to be held as a reserve for Current Expenses of the System not to exceed the amount shown by the Annual Budget to be necessary for Current Expenses of the System for the next three months, (b) less an amount equal to the amount of interest to become due and payable within the next ensuing three months with respect to the Bonds of each Series then outstanding (or a pro-rata quarterly deposit in the case of Bonds with respect to which interest is paid on an other than a quarterly basis), except any interest to be paid from the separate interest account in the Construction Fund under the provisions of Section 4.3 or interest deposited into the Debt Service Fund from the proceeds derived from the sale of any Bonds, as set forth in the last paragraph of Section 2.10, and 1/4 of the amount of principal of the Bonds of each Series then or to become due and payable (whether at maturity or upon mandatory sinking fund redemption or otherwise) within the next ensuing 12 months, (c) less all amounts previously retained in the Revenue Fund in past quarters for principal and interest payments on the Bonds and not yet transferred to the Debt Service Fund, (d) less such amounts at such times as are required to pay debt service and other amounts due on Parity Indebtedness and Parity Swap Obligations, and (e) less such amount, if any, as may be required to be deposited in the Reserve Fund pursuant to Section 5.9 or the Series Resolutions.

Section 5.7 <u>Debt Service Fund</u>. A fund shall be created by the Paying Agent designated "Virginia Polytechnic Institute and State University Dormitory and Dining Hall System Debt Service Fund" (the "Debt Service Fund") to be held in trust for the benefit of the holders of the Bonds. On or before the day preceding each date on which payments of interest or principal shall be due and payable on the Bonds (a "Payment Date"), the University shall transfer to the Paying Agent from either the Revenue Fund or Surplus Fund an amount of money sufficient to cause the amount held in the Debt Service Fund to be equal to the interest, premium and principal due on the Bonds on such Payment Date. The Paying Agent shall cause payment of the amounts due on the Bonds on each such Payment Date.

Section 5.8 Payments to Bondholders. The Paying Agent shall, at appropriate times on or before each Payment Date, withdraw from the Debt Service Fund the amounts needed on such date to pay the principal, premium and interest on the Bonds and shall pay or cause the same to be paid to the Bondholders as such principal, premium and interest become due and payable.

Section 5.9 Reserve Fund/Application of Moneys in Reserve Fund. A fund shall be created by the Paying Agent designated "Virginia Polytechnic Institute and State University Dormitory and Dining Hall System Reserve Fund" (the "Reserve Fund") to be held in trust for the benefit of the holders of those Series of Bond secured thereby. Not every Series of Bonds need be

secured by the Reserve Fund. Only those Series of Bonds issued under Series Resolutions which provide some mechanism for funding an amount not to exceed the Reserve Fund Requirement or obtaining a Reserve Fund Credit Facility Agreement will be secured by the Reserve Fund. The Paying Agent shall establish separate accounts in the Reserve Fund for each Series of Bonds so secured. The Bondholders of such Series of Bonds will have an interest only in the account created for such Series. At what time and in what manner the account for a Series is funded or at what time and in what manner a Reserve Fund Credit Facility Agreement will be required or will be drawn upon shall be governed by the Series Resolutions.

Moneys held for the credit of the Reserve Fund shall be used for the purpose of paying the interest on and the principal of those Series of Bonds secured by the Reserve Fund whenever and to the extent that the moneys held for the credit of the Debt Service Fund with respect to such Series of Bonds shall be insufficient for such purpose. If the moneys in the Debt Service Fund are insufficient for such purpose with respect to a Series of Bonds secured by the Reserve Fund and if a Reserve Fund Credit Facility Agreement exists, the Paying Agent shall take such actions as may be required to draw upon such Reserve Fund Credit Facility Agreement and to deposit the proceeds into the appropriate account in the Reserve Fund.

Section 5.10 Application of Moneys in the Surplus Fund. Moneys held for the credit of the Surplus Fund may be used for any lawful purpose directly benefiting the University as may from time to time be determined by the University.

Section 5.11 Application of Moneys in Debt Service Fund and Reserve Fund. Subject to the terms and conditions set forth in this Resolution, moneys held for the credit of the Debt Service Fund and the Reserve Fund shall be disbursed by the Paying Agent for (a) the payment of interest on the Bonds issued hereunder as such interest becomes due and payable, or (b) the payment of the principal of such Bonds at their maturities and upon redemption and such moneys are hereby pledged to and charged with the payments mentioned in this Section. Any moneys which shall be deposited by the University in the Debt Service Fund with the Paying Agent for the purpose of paying any of the Bonds hereby secured, either at the maturity thereof or upon call for redemption, and which shall remain unclaimed by the holders of such Bonds for the period of five years after the date on which such Bonds shall have become due and payable shall be disposed of by the Paying Agent in accordance with The Uniform Disposition of Unclaimed Property Act, Chapter 11.1, Title 55, Code of Virginia of 1950, as amended (the "Unclaimed Property Act"). The Paying Agent shall be entitled to act in good faith in reliance on written direction from the University or its counsel in complying with the Unclaimed Property Act, absent the Paying Agent's negligence or willful misconduct.

Whenever the total of the moneys held for the credit of the Debt Service Fund and the Reserve Fund shall be sufficient for paying the principal of and the redemption premium, if any, and the interest accrued on all Bonds then outstanding under the provisions of this Resolution, such moneys may be applied by the Paying Agent, at the direction of the University, to the redemption of such Bonds.

Section 5.12 <u>Pledge of Certain Funds</u>. The moneys in the Revenue Fund, the Debt Service Fund and the Reserve Fund shall be held in trust and applied as herein provided with

respect to each such fund and, pending such application, shall be subject to a lien and charge in favor of the holders of the Bonds issued and outstanding under this Resolution and the respective Series Resolutions and for the further security of such holders until paid out or transferred as herein provided; it being understood that the Reserve Fund secures only those Series of Bonds specifically secured by the Reserve Fund, that the holders of the Parity Indebtedness and Parity Swap Obligations shall have a lien on and pledge of the Net Revenues for the payment of debt service and other amounts due on the Parity Indebtedness and Parity Swap Obligations on a parity with the Bondholders and that the holders of the Subordinate Obligations have a lien on and pledge of the Net Revenues subordinate and junior to the Bondholders.

Section 5.13 Cancellation of Bonds Upon Payment. All Bonds paid, redeemed or purchased by the University, either at or before maturity shall be canceled upon the payment, redemption or purchase of such Bonds and shall be delivered to the University when such payment, redemption or purchase is made. All Bonds canceled under any of the provisions of this Resolution may be cremated or otherwise destroyed by the University or its designee.

ARTICLE VI

INVESTMENT OF FUNDS

Section 6.1 <u>Moneys Held by University or Deposited with the Paying Agent</u>. All moneys received by the University or deposited with the Paying Agent under the provisions of this Resolution shall be held and applied only in accordance with the provisions of the Act and this Resolution and shall not be subject to liens of or attachment by any creditor of the University.

Section 6.2 <u>Investment of Moneys</u>. Moneys held for the credit of the various funds and accounts hereunder shall be invested by the University for such periods not to extend beyond the date such funds will be needed in any investments which are permitted for the investment of public funds under the laws of the Commonwealth.

Obligations so purchased as an investment of moneys in any such fund or account, and any interest bearing time deposits made with respect to such moneys, shall be deemed at all times to be a part of such fund or account, and the interest received thereon and any profit realized from such investment shall be credited to such fund or account, and any loss resulting from such investment shall be charged to such fund or account; provided, however, that the interest received on the investment of moneys in the Debt Service Fund and the Reserve Fund and any profit realized from such investment shall be credited to the Revenue Fund and any loss resulting from such investment shall be charged to the Revenue Fund. The Paying Agent shall sell at the best price obtainable or present for redemption any obligations so purchased whenever it shall be necessary so to do in order to provide moneys to meet any payment or transfer from any such fund or account. Neither the Paying Agent nor the University shall be liable or responsible for any loss resulting from any such investment.

The Debt Service Fund may only be invested in investments permitted for the investment of public sinking funds.

For the purpose of determining the amount on deposit to the credit of any such fund or account, obligations in which moneys in such fund or account have been invested shall be computed at market value.

ARTICLE VII

PARTICULAR COVENANTS

Section 7.1 Payment of Principal and Interest; Pledge of Revenues; Exclusions from and Additions to Revenues. The University covenants that it will promptly pay from the sources described herein the principal of and the interest on every Bond issued under the provisions of this Resolution at the place or places, on the dates and in the manner provided herein and in said Bonds, and any premium required for the retirement of said Bonds by purchase or redemption, according to the true intent and meaning thereof. Except as otherwise provided in this Resolution or any Series Resolution, such principal, interest and premium are payable solely from Revenues, which Revenues and other moneys to the extent provided in the Resolution are hereby pledged to the payment thereof in the manner and to the extent hereinabove particularly specified.

Notwithstanding any other provision of this Resolution, the University may at any time exclude any Revenues from the Revenues pledged hereunder if, prior to the exclusion of such Revenues, an Authorized Officer of the University certifies in writing (1) that after the exclusion of the Revenues designated in such certificate, the University will not be in default of any of its covenants under this Resolution or any Series Resolution, including without limitation the covenants relating to fees, rents, charges and revenues contained in Section 5.1 and (2) that Revenues received or to be received in the then current Fiscal Year, after taking into account such exclusion, will in the opinion of such Authorized Officer at least equal the sum of the amounts set forth in clauses (a), (b), (c) and (d) of Section 5.1. In addition, the University may at any time add to the definition of Revenues hereunder any revenues that are not then subject to the lien hereof by filing with the Paying Agent a written notice of such addition and a description of the revenues to be added.

THE UNIVERSITY SHALL NOT BE OBLIGATED TO PAY THE PRINCIPAL OF OR INTEREST ON THE BONDS EXCEPT FROM THE SOURCES NOTED HEREIN OR IN ANY SERIES RESOLUTION PLEDGED THEREFOR. THE BONDS AND THE INTEREST THEREON SHALL NOT BE DEEMED TO CONSTITUTE A DEBT OR LIABILITY OF THE COMMONWEALTH, LEGAL, OTHERWISE. **NEITHER** MORAL OR COMMONWEALTH NOR THE UNIVERSITY SHALL BE OBLIGATED TO PAY THE PRINCIPAL OF OR INTEREST ON THE BONDS OR OTHER COSTS INCIDENT THERETO EXCEPT FROM THE SOURCES NOTED HEREIN OR IN ANY SERIES RESOLUTION PLEDGED THEREFOR, AND NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE COMMONWEALTH NOR ANY OTHER REVENUES OR FUNDS OF THE UNIVERSITY ARE PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF OR INTEREST ON THE BONDS OR OTHER COSTS INCIDENT THERETO.

- Section 7.2 <u>Construction of Projects</u>. The University covenants that, in the event that Bonds shall be issued under the provisions of Section 2.10 for the purpose of providing funds for paying all or any part of the Cost of constructing any Additional Facilities, it will forthwith proceed to construct such Additional Facilities in conformity with law and all requirements of all governmental authorities having jurisdiction, and that it will complete such construction as quickly as practicable.
- Section 7.3 <u>Architectural and Engineering Services</u>. The University covenants that it will provide and maintain competent and adequate architectural or engineering services covering the supervision and inspection of the development and construction of any Additional Facilities and will obtain all approvals and permits required by law as a condition precedent to the construction, development and operation of any such Additional Facilities.
- Section 7.4 <u>Use and Operation of System</u>. The University covenants that it will establish and enforce reasonable rules and regulations governing the use of the System and the operation thereof, that all conditions of employment and all compensation, salaries, fees and wages paid by it in connection with the maintenance, repair and operation of the System will be reasonable, that no more persons will be employed by it than are necessary, that all persons employed by it will be qualified for their respective positions and that it will at all times maintain the System in good repair and in sound operating condition and will make all necessary repairs, renewals and replacements.
- Section 7.5 Parity Liens; Payment of Lawful Charges. The University covenants that, except for existing Parity Indebtedness, Parity Swap Obligations and as provided in this Resolution, it will not create or suffer to be created any lien or charge upon the System or any part thereof or upon the revenues therefrom senior to or on a parity with the lien of the holders of the Bonds (other than the security interest created in connection with a Reserve Fund Credit Facility Agreement or a Credit Facility Agreement) and that, from such Revenues or other available funds, it will pay or cause to be discharged, or will make adequate provision to satisfy and discharge, within 60 days after the same shall accrue, all lawful claims and demands for labor, materials, supplies or other objects which, if unpaid, might by law become a lien upon the System or any part thereof or the revenues therefrom; provided, however, that nothing in this Section contained shall require the University to pay or cause to be discharged, or make provision for, any such lien or charge so long as the validity thereof shall be contested in good faith and by appropriate legal proceedings.
- Section 7.6 Acceptance of Other Funds Permitted. Notwithstanding any other provision of this Resolution, the University may accept from the United States of America, the Commonwealth or any of their agencies, departments or political subdivisions or any person, firm or corporation such moneys as may be offered for the purpose of paying all or any part of the Cost of constructing, acquiring, maintaining, repairing and operating the System and nothing herein shall be construed to prevent the University from depositing any funds available to the University for such purpose in the Debt Service Fund for the payment of the interest on or the principal of the Bonds issued under the provisions of this Resolution so long as the "federal guarantee" provisions of Section 149(b) of the Code will not be violated by such deposit.

Insurance. The University covenants that from and after the time when the contractors or any person engaged in constructing any Additional Facilities or any part thereof shall cease to be responsible, pursuant to the provisions of the respective contracts for the construction of Additional Facilities or such part, for loss or damage to such Additional Facilities or such part occurring from fire or lightning, it will insure or cause to be insured and at all times keep such Additional Facilities or such part insured and will now and at all times keep the System insured with a responsible insurance company or companies, qualified to assume the risk thereof, against physical loss or damage caused by fire or lightning, with such exceptions as are ordinarily required by insurers of structures or facilities of similar type, in an amount not less than the aggregate principal amount of Bonds and Parity Indebtedness outstanding (unless provision for payment thereof shall have been made); provided, however, that such amount of insurance shall at all times be sufficient to comply with any legal or contractual requirement which, if breached, would result in assumption by the University of a portion of any loss or damage as a co-insurer, and such insurance may provide for the deduction from each claim for loss or damage (except in case of a total loss) of not more than 2% of the total amount of insurance required by the application of the co-insurance clause; and provided, further, that if at any time the University shall be unable to obtain such insurance to the extent above required, either as to amount of such insurance or as to the risks covered thereby or the deductible provision thereof, it will not constitute an event of default under the provisions of this Resolution if the University shall carry such insurance to the extent reasonably obtainable.

The proceeds of such insurance shall be available for, and shall to the extent necessary be applied to, the repair, replacement or reconstruction of the damaged or destroyed property. If such proceeds are more than sufficient for such purpose, the balance remaining shall be deposited to the credit of the Surplus Fund. If such proceeds, with other available funds, shall be insufficient for such purpose, such proceeds shall be deposited to the credit of the Debt Service Fund and used to purchase or redeem Bonds on the earliest date on which an optional redemption may be permitted, or shall be used to repair, replace or reconstruct the damaged or destroyed property, as the University by resolution may determine. If such proceeds are deposited to the Debt Service Fund to redeem the Bonds in part, the University shall perform an internal rate study for the System and, if the rate study shows that the Revenues (taking into account any loss of Revenues as a result of such damage or destruction) will be insufficient to deposit into the Revenue Fund the entire amount referred to in clauses (a), (b), (c) and (d) of Section 5.1 (taking into account the amounts on deposit in the Debt Service Fund), the University shall adjust its rates in the manner recommended by the rate study so that the Revenues will be sufficient to deposit into the Revenue Fund all of the amounts referred to in clauses (a), (b), (c) and (d) of Section 5.1.

The foregoing insurance requirements may be modified or amended if and to the extent a qualified independent insurance consultant determines that such requirements are not necessary or that the required coverage is not reasonably commercially available or if and to the extent that the laws of the Commonwealth provide for a self-insurance program and the University participates in such program.

Section 7.8 Other Insurance. To the extent not covered by Section 7.7, the University covenants that it will at all times carry or cause to be carried with a responsible

insurance company or companies, qualified to assume the risks thereof, such other insurance in such amount and covering such risks with respect to the System as the University shall deem to be reasonable and desirable.

- Section 7.9 <u>Rights of Bondholders Not to Be Impaired</u>. The University covenants that no contract or contracts will be entered into or any action taken with respect to the System which might impair or diminish in any material respect the rights of the Bondholders.
- **Section 7.10** <u>Further Instruments and Actions</u>. The University covenants that it will, from time to time, execute and deliver such further instruments and take such further action as may be required to carry out the purposes of this Resolution.
- Section 7.11 <u>Accurate Records and Accounts</u>. The University covenants that it will keep the funds and accounts of the System separate from all other funds and accounts of the University, and that it will keep accurate records and accounts of all items of cost and of all expenditures relating to the System and of the Revenues collected and the application of such Revenues.

The University further covenants that it will cause to be filed not later than the end of the seventh month following the close of each Fiscal Year with the Secretary of the Board and the Paying Agent a certificate, signed by an Authorized Officer, stating that he or she has reviewed this Resolution and has no knowledge of any default by the University in the performance or observance of any of the provisions of this Resolution or, if he or she has such knowledge, specifying each default and the nature thereof and what actions the University is taking to cure such default.

The University further covenants that it will cause any additional reports or any audits relating to the System to be made as required by law.

The cost of the reports referred to in this Section shall be treated as a part of the cost of operation of the System.

- Section 7.12 <u>Recognized Accounting Principles</u>. The University covenants that all of the accounts and records of the University will be kept according to generally accepted accounting principles, consistently applied.
- **Section 7.13** Covenant Against Sale or Encumbrances. The University covenants that, except as in this Section, Section 7.1 or in any Series Resolution otherwise permitted, it will not sell, exchange, lease or otherwise dispose of or encumber the System or any part thereof not encumbered as of the date of this Resolution.

The University may from time to time sell, exchange, lease or otherwise dispose of any equipment, machinery, fixtures, apparatus, tools, instruments or other similar property if it determines that such articles are no longer needed or are no longer useful in connection with the System, and the proceeds thereof shall be applied to the replacement of the properties so sold, exchanged, leased or disposed of or shall be deposited to the credit of the Surplus Fund.

In addition to any sale, exchange, lease or disposition permitted above, the University may from time to time sell, exchange, lease or otherwise dispose of any other property of the System; provided, however, if such sale, exchange, lease or disposition would result in a loss of more than 10% of the Revenues of the System, the University shall (l) deposit the proceeds derived from such sale, exchange, lease or disposition into the Debt Service Fund, to be used to redeem Bonds on the earliest date on which an optional redemption may be permitted and (2) unless the Bonds will be redeemed in full pursuant to clause (l) or this Resolution or the Bonds are otherwise defeased as provided in Article XI, perform an internal rate study for the System and, if the rate study shows that the remaining Revenues will be insufficient to deposit into the Revenue Fund the entire amount referred to in clauses (a), (b), (c) and (d) of Section 5.1, the University shall adjust its rates in the manner recommended by the rate study so that the Revenues will be sufficient to deposit into the Revenue Fund all of the amounts referred to in clauses (a), (b), (c) and (d) of Section 5.1.

<u>Moneys</u>. The University covenants that if at any time the moneys held for the credit of the Debt Service Fund and the Reserve Fund shall be insufficient for the purpose of paying the interest on and the principal of the Bonds as such interest and principal becomes due and payable, the University will deposit to the credit of the Debt Service Fund an amount sufficient, together with the amount then held for the credit of the Debt Service Fund, to pay such interest and principal from any moneys available for the use of the University, including the Surplus Fund, and which are not required by law or by previous binding contract to be devoted to some other purpose.

Section 7.15 Reserved.

Section 7.16 <u>Computation Assumptions</u>. For purposes of construing any definitions or computing any covenants set forth in this Resolution, the following rules shall apply:

- (a) The Principal and Interest Requirements on any Balloon Bond in each Fiscal Year will be assumed to be the sum of (i) the principal and interest due in that Fiscal Year (except any Fiscal Year in which more than 25% of the principal amount of the Bond is due, in which case this amount shall be zero) and (ii) the amount of principal and interest assigned to that Fiscal Year assuming that the amount of principal due in any Fiscal Year in which more than 25% of the principal amount of the Bond is due is computed on a level annual debt service schedule calculated at the interest rate on the Bond for a period of 30 years from the date of issuance.
- (b) Principal and Interest Requirements on any Put Bond in each Fiscal Year will be assumed to be the sum of (i) the principal and interest due in that Fiscal Year and (ii) the amount of principal and interest determined by amortizing from its incurrence date the amount of principal that may become subject to mandatory purchase (including purchase that may be required at the option of the owner of the Bond) in any Fiscal Year in which more than 25% of the principal amount of the Bond may be subject to such mandatory purchase on a level annual debt service schedule calculated as described in (a) above.

- (c) Principal and Interest Requirements will be assumed to exclude capitalized interest on Bonds and principal of and interest on Bonds to the extent that amounts are on deposit in an irrevocable escrow or are derived from the proceeds of other Bonds (including the earnings or other increment to accrue thereon) that must be applied to pay such principal and interest and such amounts are sufficient to pay such principal and interest.
- (d) The interest rate on any Variable Rate Bond will be assumed to be the average interest rate for the most recent 36-month period. However, if the Variable Rate Bond has not been outstanding for 36 months, the interest rate will be assumed to be the higher of (i) the average interest rate in effect for the 12-month period preceding the date of calculation or (ii) the interest rate in effect on the date of calculation.
- (e) For any Bond for which a binding commitment, letter of credit or other credit arrangement providing for the extension of such Bond beyond its original maturity date exists, the computation of Principal and Interest Requirements will be made on the assumption that such Bond will be amortized either (i) in accordance with such credit arrangement or (ii) over a period of 30 years from its original maturity date, whichever is longer.

ARTICLE VIII

EVENTS OF DEFAULT AND REMEDIES

Section 8.1 Events of Default. Each of the following events is hereby declared to be an "Event of Default" under this Resolution:

- (a) due and punctual payment of the principal and of the redemption premium, if any, of any of the Bonds is not made when the same becomes due and payable, either at maturity or by proceedings for redemption or otherwise;
- (b) due and punctual payment of any installment of interest on any of the Bonds is not made when the same becomes due and payable;
- (c) the University unreasonably delays or fails to carry on with reasonable dispatch the construction of any Project for which Bonds are issued under the provisions of this Resolution unless the University receives an opinion from a qualified independent feasibility consultant that such delay or abandonment is in the best interests of the Bondholders;
- (d) the University, for any reason, is rendered incapable of fulfilling its obligations hereunder;
- (e) final judgment for the payment of money is rendered against the University as a result of the ownership, control or operation of the System and any such

judgment is not discharged within 60 days from the entry thereof or an appeal is not taken therefrom or from the order, decree or process upon which or pursuant to which such judgment has been granted or entered, in such manner as to stay the execution of or levy under such judgment, order, decree or process or the enforcement thereof;

- (f) an order or decree is entered, with the consent or acquiescence of the University, appointing a receiver or receivers of the System or any part thereof or of the revenues thereof, or if such order or decree, having been entered without the consent or acquiescence of the University, is not vacated or discharged or stayed on appeal within 60 days after the entry thereof;
- (g) any proceeding is instituted, with the consent or acquiescence of the University, for the purpose of effecting a composition between the University and its creditors or for the purpose of adjusting the claims of such creditors pursuant to any federal or state statute now or hereafter enacted, if the claims of such creditors are under any circumstances payable from Revenues;
- (h) the University defaults in the due and punctual performance of any other of the covenants, conditions, agreements and provisions contained in the Bonds or in this Resolution on the part of the University to be performed, and such default continues for 30 days after written notice specifying such default and requiring same to be remedied is given to the Board by any Bondholder provided that if such default is such that it can be corrected but cannot be corrected within such 30 day period, it shall not constitute an Event of Default if corrective action is instituted by the University within such period and is diligently pursued until the default is corrected; or
- (i) an Event of Default occurs under any Parity Indebtedness or Parity Interest Rate Agreement.
- **Section 8.2** Remedies. (a) Upon the happening and continuance of an Event of Default, hereunder, the Holders of not less than 25% in aggregate principal amount of the Bonds, by instrument or instruments filed with the University and proved or acknowledged in the same manner as a deed to be recorded, may appoint a trustee to represent the Holders of the Bonds for the purposes herein, which trustee may be the State Treasurer and shall be the same trustee so appointed with respect to all other outstanding Parity Indebtedness and Parity Swap Obligations. Such trustee may, and upon written request of the Holders of not less than 25% in principal amount of the Bonds then outstanding shall, in its own name:
 - (1) by mandamus or other suit, action or proceeding at law or in equity enforce all rights of the Holders of the Bonds, including the right to require the University and its Board to collect fees, rents, charges or other revenues adequate to carry out an agreement as to, or pledge of, such revenues, and to require the University and Board to carry out any other agreements with the Holders of the Bonds and to perform it and their duties under the Act;
 - (2) bring suit upon the Bonds;

- (3) by action or suit in equity, require the University to account as if it were the trustee of an express trust for the Holders of the Bonds; or
- (4) by action or suit in equity, enjoin any acts or things which may be unlawful or in violation of the rights of the Holders of the Bonds.
- (b) Any such trustee, whether or not all such Bonds have been declared due and payable, shall be entitled as of right to the appointment of a receiver who may enter and take possession of any property of the University any of the Revenues from which are pledged for the security of the Bonds and operate and maintain the same and collect and receive all fees, rents, charges and other revenues thereafter arising therefrom in the same manner as the University itself might do and shall deposit all such moneys in a separate account and apply the same in such manner as the court appointing such receiver shall direct. In any suit, action or proceeding by the trustee the fees, counsel fees and expenses of the trustee and of the receiver, if any, shall constitute taxable costs and disbursements and all costs and disbursements allowed by the court shall be a first charge on any fees, rents, charges and other Revenues of the University pledged for the security of the Bonds.

Such trustee shall, in addition to the foregoing, have and possess all of the powers necessary or appropriate for the exercise of any functions specifically set forth herein or incident to the general representation of the Holders of the Bonds in the enforcement and protection of their rights.

- (c) To the extent permitted by law, upon the happening and continuance of any Event of Default, then and in every such case any Bondholder may proceed, subject to the provisions of Sections 8.5 and 8.6, to protect and enforce the rights of the Bondholders by a suit, action or special proceeding in equity or at law, either for the specific performance of any covenant or agreement contained herein or in aid or execution of any power herein granted or for the enforcement of any proper legal or equitable remedy as such Bondholder shall deem most effectual to protect and enforce such rights. If necessary and if not inconsistent with the terms of this Resolution or the applicable Series Resolution, the Paying Agent will make any appropriate demands upon the issuers of the Reserve Fund Credit Facility Agreement or the Credit Facility Agreement.
- Section 8.3 Pro Rata Application of Funds. Anything in this Resolution to the contrary notwithstanding, if at any time the moneys in the Debt Service Fund shall not be sufficient to pay the interest on or the principal of the Bonds as the same shall become due and payable, such moneys, together with any moneys then available or thereafter becoming available for such purpose, whether through the exercise of the remedies provided for in this Article or otherwise, shall be applied first to the payment of any fees and expenses of the Custodian, Paying Agent and Registrar and thereafter shall be applied as follows:
 - (a) If the principal of all the Bonds shall not have become due and payable, all such moneys shall be applied

FIRST: to the payment to the persons entitled thereto of all installments of interest then due and payable in the order in which such installments became due and payable and, if the amount available shall not be sufficient to pay in full any particular installment, then to the payment, ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference except as to any difference in the respective rates of interest specified in the Bonds;

SECOND: to the payment to the persons entitled thereto of the unpaid principal of any of the Bonds which shall have become due and payable (other than Bonds called for redemption for the payment of which moneys are held pursuant to the provisions of this Resolution), in the order of their due dates, with interest on the principal amount of such Bonds at the respective rates specified therein from the respective dates upon which such Bonds became due and payable, and, if the amount available shall not be sufficient to pay in full the principal of the Bonds due and payable on any particular date, together with such interest, then to the payment first of such interest, ratably, according to the amount of such interest due on such date, and then to the payment of such principal, ratably, according to the amount of such principal due on such date, to the persons entitled thereto without any discrimination or preference; and

THIRD: to the payment of the interest on and the principal of the Bonds, to the purchase and retirement of Bonds and to the redemption of Bonds, all in accordance with the provisions of Article V of this Resolution.

(b) If the principal of all the Bonds shall have become due and payable, all such moneys shall be applied

FIRST: to the payment to the persons entitled thereto of all installments of interest due and payable if any, in the order in which such installments became due and payable and, if the amount available shall not be sufficient to pay in full any particular installment, then to the payment, ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference except as to any difference in the respective rates of interest specified in the Bonds; and

SECOND: to the payment of the principal of the Bonds, ratably, to the persons entitled thereto, without preference or priority of any Bond over any other Bond.

Whenever moneys are to be applied by the trustee pursuant to the provisions of this Section, such moneys shall be applied by the trustee at such times, and from time to time, as the trustee in his or her sole discretion shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future; the deposit of such moneys with the Paying Agent, or otherwise setting aside such moneys, in trust for the proper purpose shall constitute proper application by

the trustee; and the trustee shall incur no liability whatsoever to the Board, to any Bondholder or to any other persons for any delay in applying any such moneys, so long as the trustee acts with reasonable diligence, having due regard to the circumstances, and ultimately applies the same in accordance with such provisions of this Resolution as may be applicable at the time of application by the trustee. Whenever the trustee shall exercise such discretion in applying such moneys, he or she shall fix the date (which shall be an interest payment date unless the trustee shall deem another date more suitable) upon which such application is to be made and upon such date interest on the amounts of principal to be paid on such date shall cease to accrue. The trustee shall give such notice (or shall cause the Paying Agent to give such notice) as he or she may deem appropriate of the fixing of any such date and shall not be required to make payment to the holder of any Bond until such Bond shall be surrendered to the trustee or the Paying Agent for appropriate endorsement, or for cancellation if fully paid. Nothing in this Section 8.3 shall entitle the holder of any Bond to any moneys in the Reserve Fund except moneys, if any, held in the account therein for the Series of Bonds of which his or her bond is one.

- **Section 8.4** Effect of Discontinuance of Proceedings. In case any proceeding taken by any Bondholder on account of any Event of Default shall have been discontinued or abandoned for any reason, then and in every such case the University and the Bondholders shall be restored to their former positions and rights hereunder, respectively, and all rights and remedies of the Bondholders shall continue as though no such proceedings had been taken.
- Section 8.5 <u>Proceedings for Equal Benefit of All Bondholders</u>. No Bondholder shall have any right in any manner whatever to affect, disturb or prejudice the security of this Resolution or to enforce any right hereunder, except in the manner herein provided, and all proceedings at law or in equity shall be instituted, had and maintained for the equal benefit of all Bondholders.
- Section 8.6 No Remedy Exclusive. (a) No remedy herein conferred on the Bondholders is intended to be exclusive of any other remedy or remedies, and each and every remedy conferred shall be cumulative and shall be in addition to every other remedy given hereunder and under the Act, including, without limitation, the benefits to which the Bondholders shall be entitled pursuant to paragraph (b) of this Section 8.6, or now or hereafter existing at law or in equity or by statute.
- (b) To the extent permitted by the terms of the Act and not inconsistent with any provision of this Resolution or any Series Resolution applicable to the Bonds of a Series, Bondholders shall be entitled to the same rights and remedies provided for in Sections 23-20 and 23-26 of Title 23 that are available to the holders of bonds issued pursuant to the General Higher Education Bond Act, whether or not an Event of Default has occurred.
- Section 8.7 No Delay or Omission Construed to Be a Waiver. No delay or omission of any Bondholder to exercise any right or power accruing upon any Event of Default occurring and continuing as aforesaid shall impair any such right or power or shall be construed to be a waiver of any such Event of Default or an acquiescence therein; and every power and remedy given by this Article to the Bondholders may be exercised from time to time and as often as may be deemed expedient.

ARTICLE IX

EXECUTION OF INSTRUMENTS BY BONDHOLDERS AND PROOF OF OWNERSHIP OF BONDS

- Section 9.1 <u>Execution of Instruments; Proof of Ownership</u>. Any request, direction, consent or other instrument in writing required or permitted by this Resolution to be signed or executed by Bondholders may be in any number of concurrent instruments of similar tenor and may be signed or executed by such Bondholders or their attorneys or legal representatives. Proof of the execution of any such instrument and of the ownership of Bonds shall be sufficient for any purpose of this Resolution and shall be conclusive in favor of the University and the Paying Agent with regard to any action taken by them under such instrument if made in the following manner:
 - (a) The fact and date of the execution by any person of any such instrument may be proved by the verification of any officer in any jurisdiction who, by the laws thereof, has power to take affidavits within such jurisdiction, to the effect that such instrument was subscribed and sworn to before him, or by an affidavit of a witness to such execution. Where such execution is by an officer of a corporation or association or a member of a partnership on behalf of such corporation, association or partnership such verification or affidavit shall also constitute sufficient proof of his authority.
 - (b) The fact of the holding of Bonds hereunder by any Bondholder and the amount and the numbers of such Bonds and the date of its holding the same shall be proved by the registration books kept under the provisions of Section 2.7.

ARTICLE X

SUPPLEMENTAL AND SERIES RESOLUTIONS

- **Section 10.1** <u>Supplemental Resolutions</u>. The University may, from time to time and at any time, without the consent of any holders of the Bonds, adopt such resolutions supplemental hereto as shall not be inconsistent with the terms and provisions hereof (which supplemental resolutions shall thereafter form a part hereof), as follows:
 - (a) to cure any ambiguity or formal defect or omission or to correct any inconsistent provisions in this Resolution or in any supplemental resolution,
 - (b) to provide for the issuance of uncertificated Bonds pursuant to Section 2.2 of this Resolution, or to obtain or maintain a rating for one or more Series of the Bonds,
 - (c) to grant to or confer upon the Bondholders any additional rights, remedies, powers, authority or security that may lawfully be granted to or conferred upon the Bondholders.

- (d) to add to the conditions, limitations and restrictions on the issuance of Bonds under the provisions of this Resolution other conditions, limitations and restrictions thereafter to be observed,
- (e) to add to the covenants and agreements of the Board in this Resolution other covenants and agreements thereafter to be observed by the Board or to surrender any right or power herein reserved to or conferred upon the Board,
- (f) to comply with any proposed, temporary or permanent regulations regarding the arbitrage rebate requirements of the Code, to comply with any other provision of the Code to maintain the tax-exempt status of interest on the Bonds, or to comply with Federal or state securities or "blue-sky" laws,
- (g) to provide for the financing of any project permitted by the Act and the pledging of any revenues permitted by the Act, provided that subsequent to such financing or pledge the University shall be in compliance with all of the terms, covenants and provisions of this Resolution, or
- (h) to modify, alter, amend, add to or rescind, in any particular, any of the terms or provisions contained in this Resolution, if in the opinion of the Paying Agent, who may rely upon a written opinion of counsel nationally recognized in matters concerning municipal bonds, such supplemental resolution shall not materially adversely affect or prejudice the interests of the Bondholders.

At least thirty (30) days prior to the adoption of any supplemental resolution for any of the purposes of this Section, an Authorized Officer of the University shall cause a notice of the proposed adoption of such supplemental resolution to be mailed, postage prepaid, to all registered owners of Bonds at their addresses as they appear on the registration books. Such notice shall briefly set forth the nature of the proposed supplemental resolution and shall state that copies thereof are on file at the office of the Secretary of the Board for inspection by all Bondholders. Failure on the part of an Authorized Officer of the University to mail the notice required by this Section shall not affect the validity of such supplemental resolution.

Section 10.2 <u>Series Resolutions</u>. The University may from time to time adopt a Series Resolution or Resolutions in order to issue Bonds of any Series hereunder. Subject to Section 2.10, such Series Resolution shall set forth any additional terms and provisions for the Bonds of such Series to the extent not inconsistent with the provisions hereof. The consent of the holders of Bonds of any Series outstanding under this Resolution shall not be required (a) to adopt a Series Resolution providing for the issuance of Bonds of another Series or (b) for the issuance of any Parity Indebtedness, Parity Swap Obligations or Subordinate Obligations.

Section 10.3 <u>Modification of the Resolution with Consent of Holders</u>. Subject to the terms and provisions contained in this Section, and not otherwise, the holders of not less than a majority in aggregate outstanding principal amount of each Series of Bonds of all Series then outstanding shall have the right, from time to time, anything contained in this Resolution to the contrary notwithstanding, to consent to and approve the adoption of such resolution or

resolutions supplemental hereto as shall be deemed necessary or desirable by the Board for the purpose of modifying, altering, amending, adding to or rescinding, in any particular, any of the terms or provisions contained in this Resolution or in any supplemental resolution; provided, however, that nothing herein contained shall permit, or be construed as permitting without the approval of all of the Bondholders, (a) an extension of the maturity of the principal of or the interest on any Bond issued hereunder, (b) a reduction in the principal amount of any Bond or the redemption premium or the rate of interest thereon, (c) except as provided herein, the creation of a lien upon or a pledge of Revenues other than the lien and pledge created by this Resolution and liens and pledges permitted by this Resolution, or (d) except as provided herein, a preference or priority of any Bond or Bonds over any other Bond or Bonds, (e) the issuance of indebtedness payable from Net Revenues senior to or on a parity with the Bonds except as provided herein, or (f) a reduction in the aggregate principal amount of the Bonds required for consent to such supplemental resolution. Nothing herein contained, however, shall be construed as making necessary the approval by Bondholders of the adoption of any supplemental resolution as authorized in Section 10.1.

If at any time the Board shall determine that it is necessary or desirable to adopt any supplemental resolution for any of the purposes of this Section, an Authorized Officer shall cause notice of the proposed adoption of such supplemental resolution to be mailed, not less than 30 nor more than 60 days prior to the date of such adoption, postage prepaid, to all registered owners of the Bonds at their addresses as they appear on the registration books held by the Registrar. Such notice shall briefly set forth the nature of the proposed supplemental resolution and shall state that copies thereof are on file at the office of the Secretary of the Board for inspection by all Bondholders. The Board shall not, however, be subject to any liability to any Bondholder by reason of its failure to cause the notice required by this Section to be mailed and any such failure shall not affect the validity of such supplemental resolution when consented to and approved as provided in this Section.

Whenever, at any time within one year after the date of such notice, the Board shall deliver to the Paying Agent an instrument or instruments in writing purporting to be executed by the holders of not less than a majority or all, as appropriate, in aggregate principal amount of the Bonds of all Series then outstanding, which instrument or instruments shall refer to the proposed supplemental resolution described in such notice and specifically consent to and approve the adoption thereof in substantially the form of the copy thereof referred to in such notice, thereupon, but not otherwise, the Board may adopt such supplemental resolution in substantially such form, without liability or responsibility to any holder of any Bond, whether or not such holder shall have consented thereto.

If the holders of not less than a majority or all, as appropriate, in aggregate principal amount of the Bonds of all Series outstanding at the time of the adoption of such supplemental resolution shall have consented to and approved the adoption thereof as herein provided, no Bondholder shall have any right to object to the adoption of such supplemental resolution, or to object to any of the terms and provisions contained therein or the operation thereof, or in any manner to question the propriety of the adoption thereof, or to enjoin or restrain the Board from adopting the same or from taking any action pursuant to the provisions thereof.

Notwithstanding the foregoing, if any supplemental resolution described in this Section affects the holders of less than all of the Series of Bonds outstanding under this Resolution, only the holders of the Bonds of the Series affected by such supplemental resolution need give their approval, as set forth herein.

Upon the adoption of any supplemental resolution pursuant to the provisions of this Section, this Resolution shall be and be deemed to be modified and amended in accordance therewith, and the respective rights, duties and obligations under this Resolution of the University, the Board and all holders of Bonds then outstanding shall thereafter be determined, exercised and enforced in all respects under the provisions of this Resolution as so modified and amended.

Section 10.4 <u>Supplemental Resolutions Part of This Resolution</u>. Any supplemental resolution adopted in accordance with the provisions of this Article shall thereafter form a part of this Resolution, and all of the terms and conditions contained in any such supplemental resolution as to any provision authorized to be contained therein shall be and shall be deemed to be part of the terms and conditions of this Resolution for any and all purposes. In case of the adoption and approval of any supplemental resolution, express reference may be made thereto in the text of any Bonds issued thereafter, if deemed necessary or desirable by the Board.

Section 10.5 Amendments to Resolution Prior to Delivery of First Series of Bonds. On or prior to the delivery of the first Series of Bonds pursuant to Section 2.10 hereof, the Chief Financial Officer or the University Treasurer may make such changes to, and complete any blanks in, this Resolution as shall be necessary to accurately reflect the structure and terms of the financing. On or prior to the delivery of the first Series of Bonds hereunder, the Chief Financial Officer or the University Treasurer shall deliver to the Secretary of the Board a copy of this Resolution with all of the changes and completions referred to in the preceding sentence (the "Final Resolution"), together with a certificate of the Chief Financial Officer or the University Treasurer to the effect that the resolution so delivered is the Final Resolution. The Secretary shall file such Final Resolution with the minutes of the meeting at which this Resolution is adopted. The certificate of the Chief Financial Officer or the University Treasurer referred to above shall be conclusive evidence that any changes made are approved and effective as if such Final Resolution were adopted by the Board.

ARTICLE XI

DEFEASANCE

Section 11.1 <u>Defeasance</u>. If, when the Bonds of any Series secured hereby shall have become due and payable in accordance with their terms or shall have been duly called for redemption or irrevocable instructions to call such Bonds for redemption shall have been given by the University to the Paying Agent, the whole amount of the principal, premium, if any, and the interest so due and payable upon all of such Bonds then outstanding shall be paid or sufficient moneys, or direct obligations of the United States of America or securities unconditionally guaranteed as to the timely payment of principal and interest by the United States of America, the principal of and the interest on which when due upon maturity or the

earliest redemption date (if such obligations are subject to redemption prior to maturity) will provide sufficient moneys (as verified by certified public accountants upon request of the Paying Agent), shall be held by the Paying Agent for such purpose under the provisions of this Resolution and the Series Resolution under which such Bonds were issued, and provision shall also be made for paying all other sums payable hereunder by the University, then and in that case the right, title and interest of the holders of such Bonds in the Revenues, funds and accounts mentioned in this Resolution shall thereupon cease, determine and become void. If all the Bonds of all Series issued hereunder shall have been paid or provided for, the Board in such case, shall repeal and cancel this Resolution and may apply any surplus in any account in the Debt Service Fund and all balances remaining in any other funds or accounts (other than moneys held for the redemption or payment of Bonds or funds representing any Rebate Amount to be paid to the United States of America) to any lawful purpose of the University as the University shall determine; otherwise this Resolution shall be, continue and remain in full force and effect; provided, however, that in the event direct obligations of the United States of America or securities unconditionally guaranteed as to the timely payment of principal and interest by the United States of America, shall be deposited with and held by the Paying Agent as hereinabove provided, and in addition to the requirements set forth in Article III of this Resolution, the Paying Agent shall within 30 days after such obligations shall have been deposited with it cause a notice to be mailed to each Bondholder at its address as set forth in the registration books held by the Registrar setting forth (a) the date designated for the redemption of the Bonds, (b) a description of the obligations so held by it, (c) if this Resolution has been repealed and canceled in accordance with the provisions of this Section and (d) whether the University has retained the right to call the Bonds for redemption prior to their maturity.

All moneys and obligations held by the Paying Agent pursuant to this Section shall be held in trust and the principal and interest of said obligations when received, and said moneys, applied to the payment, when due, of the principal and the interest and the premium, if any, of the Bonds at maturity or upon their redemption date if so called for redemption.

ARTICLE XII

PAYING AGENT AND REGISTRAR

Section 12.1 Paying Agent. (a) The Paying Agent and any successor Paying Agent, by written instrument delivered to the University shall accept the duties and obligations imposed on it under this Resolution and shall act on behalf of the Bondholders. Unless a separate Registrar is appointed by the Chief Financial Officer or the University Treasurer, the Paying Agent shall assume the duties and obligations imposed on the Registrar.

Section 12.2 <u>Successor Paying Agents or Registrars</u>. Any bank or trust company authorized to do business in the Commonwealth may be appointed by the University as successor Paying Agent or Registrar hereunder and immediately upon acceptance of such appointment shall be deemed the successor of the Paying Agent or Registrar for the purposes of this Resolution. The University shall give notice to any Rating Agency of its appointment of any successor Paying Agent or Registrar. The reasonable fees and expenses of any such successor

Paying Agent or Registrar shall be the sole obligation of the University and shall constitute a pledge of the Net Revenues prior to the Bonds, to the extent such fees and expenses are unpaid.

Section 12.3 No Risk to Paying Agent Funds. No provision herein shall require the Paying Agent to expend its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of any of its rights or powers unless the Paying Agent shall have reasonable grounds for believing that repayment of such funds or adequate indemnity against such risk or liability is reasonably assured to it.

Section 12.4 Paying Agent/Registrar/Custodian Reliance and Other Matters. For purposes of this Section 12.4 only, the term "Paying Agent" shall refer to the Paying Agent, the Registrar and the Custodian. The Paying Agent undertakes to perform only such duties as are expressly set forth herein. The duties and responsibilities of the Paying Agent hereunder shall be determined solely by the express provisions of the Resolution, and no further duties or responsibilities shall be implied. The Paying Agent shall not have any liability under, nor duty to inquire into the terms and provisions of, any agreement or instructions, other than as outlined in the Resolution. The Paying Agent may consult with counsel and may rely conclusively and shall be protected in acting or refraining from acting upon any written notice, electronically transmitted communication, instruction or request furnished to it hereunder and believed by it to be genuine and to have been signed or presented by the proper party or parties. The Paying Agent shall be under no duty to inquire into or investigate the validity, accuracy or content of any such document. The Paying Agent shall have no duty to solicit any payments that may be due it hereunder. The Paying Agent shall not be liable for any action taken or omitted by it in good faith unless a court of competent jurisdiction determines that any loss to the University was the result of the Paying Agent's negligent or willful misconduct. The Paying Agent shall not incur any liability for following the instructions herein contained or expressly provided for, or written instructions given by the University. In the administration of its duties under the Resolution, the Paying Agent may execute any of its powers and perform its duties hereunder directly or through agents or attorneys and may consult with counsel, accountants and other skilled persons to be selected and retained by it. The Paying Agent shall not be liable for anything done, suffered or omitted in good faith by it in accordance with the advice or opinion of any such counsel, accountants or other skilled persons. The Paying Agent may resign and be discharged of its duties and obligations hereunder by giving notice in writing of such resignation specifying a date when such resignation shall take effect. Any corporation or association into which the Paying Agent in its individual capacity may be merged or converted or with which it may be consolidated, or any corporation or association resulting from any merger, conversion or consolidation to which the Paying Agent in its individual capacity shall be a party, or any corporation or association to which all or substantially all the corporate trust business of the Paying Agent in its individual capacity may be sold or otherwise transferred, shall be the Paying Agent hereunder without further act. The University covenants and agrees to pay the Paying Agent its fees and expenses (including reasonable attorney's fees, costs and expenses) as agreed upon by the University and the Paying Agent. Furthermore, the University shall pay the Paying Agent for any extraordinary services or expenses performed or incurred by the Paying Agent in connection with its duties under the Resolution provided the University consents in writing prior to the performance of such services or the incurring of such expenses.

The Paying Agent shall not be responsible or liable for any failure or delay in the performance of its obligation under the Resolution arising out of or caused, directly or indirectly, by circumstances beyond its reasonable control, including, without limitation, acts of God, earthquakes, fire, flood, hurricanes or other storms; wars, terrorism, similar military disturbances; sabotage; epidemic, riots, interruptions; loss or malfunctions of utilities, computer (hardware or software) or communications services; accidents; labor disputes; acts of civil or military authority or governmental action; it being understood that the Paying Agent shall use commercially reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as reasonably practicable under the circumstances.

The Paying Agent shall have the right to accept and act upon instructions, including funds transfer instructions ("Instructions") given pursuant to the Resolution and delivered using Electronic Means; provided, however, that the University shall provide to the Paying Agent an incumbency certificate listing Authorized Officers and containing specimen signatures of such Authorized Officers, which incumbency certificate shall be amended by the University whenever a person is to be added or deleted from the listing. If the University elects to give the Paying Agent Instructions using Electronic Means and the Paying Agent in its discretion elects to act upon such Instructions, the Paying Agent's understanding of such Instructions shall be deemed controlling. The University understands and agrees that the Paying Agent cannot determine the identity of the actual sender of such Instructions and that the Paying Agent shall conclusively presume that directions that purport to have been sent by an Authorized Officer listed on the incumbency certificate provided to the Paying Agent have been sent by such Authorized Officer. The University shall be responsible for ensuring that only Authorized Officers transmit such Instructions to the Paying Agent and that the University and all respective Authorized Officers are solely responsible to safeguard the use and confidentiality of applicable user and authorization codes, passwords and/or authentication keys upon receipt by the University. The Paying Agent shall not be liable for any losses, costs or expenses arising directly or indirectly from the Paying Agent's reliance upon and compliance with such Instructions notwithstanding such directions conflict or are inconsistent with a subsequent written instruction. The University agrees: (i) to assume all risks arising out of the use of Electronic Means to submit Instructions to the Paying Agent, including without limitation the risk of the Paying Agent acting on unauthorized Instructions, and the risk of interception and misuse by third parties; (ii) that it is fully informed of the protections and risks associated with the various methods of transmitting Instructions to the Paying Agent and that there may be more secure methods of transmitting Instructions than the method(s) selected by the University; (iii) that the security procedures (if any) to be followed in connection with its transmission of Instructions provide to it a commercially reasonable degree of protection in light of its particular needs and circumstances; and (iv) to notify the Paying Agent immediately upon learning of any compromise or unauthorized use of the security procedures.

"Electronic Means" shall mean the following communications methods: e-mail, facsimile transmission, secure electronic transmission containing applicable authorization codes, passwords and/or authentication keys issued by the Paying Agent, or another method or system specified by the Paying Agent as available for use in connection with its services hereunder.

ARTICLE XIII

MISCELLANEOUS PROVISIONS

Section 13.1 Effect of Covenants. All covenants, stipulations, obligations and agreements of the University and the Board contained in this Resolution shall be deemed to be covenants, stipulations, obligations and agreements of the University and the Board to the full extent authorized by the Act or permitted by the Constitution of Virginia. All such covenants, stipulations, obligations and agreements shall be binding upon the successor or successors thereof from time to time and upon any officer, board, body or commission to whom or to which any power or duty affecting such covenants, stipulations, obligations and agreements shall be transferred by or in accordance with law.

No covenant, stipulation, obligation or agreement herein contained shall be deemed to be a covenant, stipulation, obligation or agreement of any present or future director, member, agent or employee of the University or the Board in his or her individual capacity, and no member of the Board or of any agency of the Commonwealth nor any officer thereof or of the University, present or future, executing the Bonds shall be liable personally on the Bonds or be subject to any personal liability or accountability by reason of the issuance thereof.

Section 13.2 <u>Successor Paying Agents or Registrars</u>. Any bank or trust company authorized to do business in the Commonwealth may be appointed by the University as successor Paying Agent or Registrar hereunder and immediately upon acceptance of such appointment shall be deemed the successor of the Paying Agent or Registrar for the purposes of this Resolution. The University shall give notice to any Rating Agency of its appointment of any successor Paying Agent or Registrar. The reasonable fees and expenses of any such successor Paying Agent or Registrar shall be the sole obligation of the University and shall constitute a pledge of the Revenues prior to the Bonds, to the extent such fees and expenses are unpaid.

- **Section 13.3** <u>Manner of Giving Notice</u>. Any notice, demand, direction, request or other instrument authorized or required by this Resolution to be given or to be filed with the University, the Paying Agent, the Registrar, the Custodian or the Rating Agencies shall be deemed to have been sufficiently given or filed for all purposes of this Resolution if and when sent by registered mail, return receipt requested:
 - (a) to the University, if addressed to the Board of Visitors of Virginia Polytechnic Institute and State University, 220 Burrus Hall, 800 Drillfield Drive, Blacksburg, Virginia 24061, Attention: Chief Financial Officer and University Treasurer;
 - (b) to the Custodian, Paying Agent and/or Registrar, if addressed to The Bank of New York Mellon Trust Company, N.A., 525 William Penn Place, 38th Floor, Pittsburgh, Pennsylvania 15259, Attention: Corporate Trust Administration;
 - (c) to Moody's, if addressed to Moody's Investor Services, 7 World Trade Center, 250 Greenwich Street, New York, New York 10007, Attention: Structured Finance, Telecopier: (212) 298-6442;

- (d) to S&P, if addressed to Standard & Poor's, at 55 Water Street, 38th Floor, New York, New York 10041, Attention: Public Finance Department (Surveillance), Telecopier: (212) 438-2152; and
- (e) to Fitch, if addressed to Fitch Ratings, One State Street Plaza, New York, New York 10004, Attention: Municipal Structured Finance Group, Telecopier: (212) 635-0466.
- Section 13.4 <u>Alternative Notice</u>. If, because of the temporary or permanent suspension of publication of any newspaper or financial journal or suspension of the mails or for any other reason, the University, the Paying Agent or the Custodian shall be unable to give any notice required to be published or mailed by the provisions of this Resolution, the University, the Paying Agent or the Custodian, as the case may be, shall give such notice in such other manner as in the judgment of the University, the Paying Agent or the Custodian shall most effectively approximate such publication thereof, and the giving of such notice in such manner shall for all purposes of this Resolution be deemed to be compliance with the requirement for the publication thereof.
- Section 13.5 <u>Effect of Partial Invalidity</u>. In case any one or more of the provisions of this Resolution or of the Bonds issued hereunder shall for any reason be held to be illegal or invalid, such illegality or invalidity shall not affect any other provision of this Resolution or of said Bonds, but this Resolution and said Bonds shall be construed and enforced as if such illegal or invalid provision had not been contained therein. In case any covenant, stipulation, obligation or agreement contained in the Bonds or in this Resolution shall for any reason be held to be in violation of law, then such covenant, stipulation, obligation or agreement shall be deemed to be the covenant, stipulation, obligation or agreement of the University to the full extent permitted by law.
- **Section 13.6** Governing Law. This Resolution is adopted with the intent that the laws of the Commonwealth shall govern its construction without regard to conflict of law principles.
- **Section 13.7** Repeal of Inconsistent Provisions. Any prior resolutions or provisions of resolutions of the Board inconsistent with any provisions of this Resolution are hereby repealed.
- Section 13.8 <u>Ratification of Optional Redemption of Series 2004B Bonds</u>. The optional redemption of all of the outstanding Series 2004B Bonds is hereby ratified.
- Section 13.9 Effective Date of this Resolution. This Resolution shall become effective subsequent to its adoption by the Board on the date as determined by an Authorized Officer of the University, any of whom may act, which shall be (a) no earlier than the earliest date as of which all of the following shall have occurred: (i) the University has received the written consents thereto of the Governor and the Treasury Board of the Commonwealth and (ii) the Series 2004B Bonds have been optionally redeemed in full, and (b) no later than the Business Day on which the first Series of Bonds is issued hereunder.

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VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

SER	RIES	RESC	OLUT	ION

AUTHORIZING AND SECURING DORMITORY AND DINING HALL SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015A

ADOPTED ON AUGUST 31, 2015

EFFECTIVE ON ______, 2015, THE DATE SPECIFIED IN SECTION 6.6

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Exhibit A – Form of Bonds

A SERIES RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY DORMITORY AND DINING HALL SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015A, TO PAY A PORTION OF THE COST OF CONSTRUCTING AND FURNISHING TWO RESIDENTIAL FACILITIES; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF AND THE INTEREST ON SUCH BONDS CERTAIN GENERAL REVENUES AND THE NET REVENUES OF THE UNIVERSITY'S DORMITORY AND DINING HALL SYSTEM AS PROVIDED HEREIN; AWARDING THE BONDS; APPOINTING THE PAYING AGENT.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth of Virginia which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.
- D. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.
- E. The Board has adopted an amended and restated resolution providing for the issuance of dormitory and dining hall system revenue bonds pursuant to the Act (the "Master Resolution").
- F. The Board has heretofore determined to construct and furnish two residential facilities, each containing approximately 97,000 gross square feet, which together will house approximately 1,100 student beds (the "Project"), which will become a part of the University's Dormitory and Dining Hall System (the "System").
 - G. The Board has determined that the Project may be financed under the Act.

- H. For the purpose of providing funds to finance a portion of the costs of the Project and costs to be incurred in connection with the issuance thereof, the Board has determined to issue dormitory and dining hall system and general revenue pledge bonds of the University (the "Bonds") under the Master Resolution pursuant to this Series Resolution.
- I. The Board has ascertained (a) the estimated annual revenues to be derived by the University from its operation and ownership of the System based on the fees, rents and charges to be fixed, charged and collected for or in connection with the use, occupation or services of the facilities comprising the System, and (b) the estimated annual expenses of maintaining, repairing and operating the System, and has determined that sufficient revenues will be derived from its operation and ownership of the System, after the payment of such expenses of maintenance, repair and operation to pay the principal of and the interest on the Bonds hereinafter authorized to be issued under this Series Resolution and to meet other requirements of this Series Resolution and the Master Resolution.
- J. The Board has determined that the Bonds will also be secured by a pledge of certain general revenues of the University as contemplated by the Act and as more particularly described herein.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF VISITORS OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY:

ARTICLE I DEFINITIONS

Section 1.1 <u>Definitions.</u> Unless otherwise required by the context, all terms used herein which are defined in the Master Resolution or in the Recitals hereto shall have the meanings assigned to them therein. These additional terms shall have the following meanings:

"Bonds" means the University's Dormitory and Dining Hall System and General Revenue Pledge Bonds, Series 2015A, issued pursuant to this Series Resolution under the Master Resolution.

"Business Day" means a day other than (i) a Saturday, Sunday or other day on which banking institutions in the Commonwealth or the city in which the Designated Office of the Paying Agent is located are authorized or required by law to close or (ii) a day on which the New York Stock Exchange is closed.

"DTC" means The Depository Trust Company and any successor company.

"Fitch" means Fitch Ratings, a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "Fitch" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

"Interest Payment Date" means June 1, 2016, and each June 1 and December 1 thereafter (unless such date is not a Business Day, in which event payment of interest shall be made on the next succeeding Business Day).

"Master Resolution" means that Amended and Restated Resolution providing for the issuance of dormitory and dining hall system revenue bonds, adopted by the Board on August 31, 2015, as it may be supplemented and amended.

"Moody's" means Moody's Investors Service, Inc., a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "Moody's" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

"Parity Credit Obligation" means any Credit Obligation of the University which may be incurred in accordance with the terms of this Series Resolution or has been incurred that is secured on a parity with the pledge of Pledged General Revenues herein, including, without limitation, all other bonds being issued by the University on the date of initial issuance of the Bonds.

"Parity Pledged General Revenue Interest Rate Agreement" shall mean any Interest Rate Agreement, any portion of the payments by the University under which is on a parity as to right to payment from Pledged General Revenues, and is equally and ratably secured by a pledge of such Pledged General Revenues, with the holders of the Bonds.

"Parity Pledged General Revenue Swap Obligations" shall mean the amounts payable by the University to the Hedge Provider pursuant to a Parity Pledged General Revenue Interest Rate Agreement that, as specified in the Parity Pledged General Revenue Interest Rate Agreement, are on a parity as to right to payment from Pledged General Revenues, and are equally and ratably secured by a pledge of such Pledged General Revenues, with the holders of the Bonds.

"Pledged General Revenues" means any or all of the revenues now or hereafter available to the University which are not required by law, by binding contract entered into prior to the date of this Series Resolution or by the provisions of any Qualifying Senior Obligation to be devoted to some other purpose, and shall include, without limitation, all revenues pledged to the payment of any Qualifying Senior Obligation net of amounts necessary to pay it or any operating or other expenses, the payment of which is required or permitted to be made with such revenues prior to the payment of such Qualifying Senior Obligation.

"Qualifying Senior Obligation" means any existing Credit Obligation other than a Parity Credit Obligation secured by a pledge of any portion of the Pledged General Revenues, and any additional Credit Obligation issued pursuant to Section 4.2(b) or 4.2(c) or to refund any Qualifying Senior Obligation as described in Section 4.2(e).

"Rating Agency" means Moody's, S&P and/or Fitch, if any or all of such rating agencies have provided a rating for the Bonds. If any such corporation ceases to act as a securities rating agency, the University may appoint any nationally recognized securities rating agency as a replacement.

"Record Date" means the 15th day of the month preceding each Interest Payment Date, whether or not such 15th day is a Business Day.

"Resolution" means the Master Resolution, as supplemented by this Series Resolution, together with all supplements and amendments thereto.

"Securities Depository" means DTC and any other securities depository for the Bonds appointed pursuant to Section 2.7.

"Series Resolution" means this Series Resolution, together with all supplements and amendments hereto.

"S&P" means Standard & Poor's, a Division of The McGraw-Hill Companies, a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such division shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "S&P" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

"Underwriters" mean a group of underwriters managed or co-managed by Merrill Lynch, Pierce, Fenner & Smith Incorporated, Davenport & Company, LLC, Morgan Stanley & Co., LLC, and Wells Fargo Bank, National Association.

ARTICLE II FORM, EXECUTION, DELIVERY, REGISTRATION AND PAYMENT OF BONDS; TAX COVENANTS

Section 2.1 Form of Bonds. The Bonds issued under the provisions of Section 2.2 shall be substantially in the form set forth in Exhibit A attached hereto, with such appropriate variations, omissions or insertions as are permitted or required by the Resolution.

Section 2.2 <u>Issuance of Bonds</u>. There shall be initially issued under and secured by the Resolution, Bonds of the University in the aggregate principal amount of \$55,000,000 for the purpose of providing funds to finance a portion of the Cost of the Project. The Bonds shall be designated "Virginia Polytechnic Institute and State University Dormitory and Dining Hall System and General Revenue Pledge Bonds, Series 2015A", shall be dated their date of initial issuance, shall be numbered R-1 and up, shall be issued in denominations of \$5,000 or whole multiples of \$5,000 and shall mature on June 1 in such amounts and in such years as will be determined by the Chief Financial Officer or the University Treasurer prior to the issuance of the Bonds. The Bonds shall bear interest at the rate or rates to be approved by the Chief Financial Officer or the University Treasurer, with a true interest cost not to exceed 5.00% per annum. The execution of the Bonds by the University's President and by the Chief Financial Officer or the University Treasurer shall be conclusive evidence of the requisite approval of the maturity schedule (including any mandatory sinking fund redemption schedule) and the rate or rates payable on the Bonds.

Interest on the Bonds shall be payable on each Interest Payment Date. Each Bond shall bear interest from the Interest Payment Date next preceding the date on which it is authenticated,

unless any Bond is (a) authenticated before the first Interest Payment Date following the initial delivery of the Bonds, in which case it shall bear interest from its dated date or (b) authenticated upon an Interest Payment Date, in which case it shall bear interest from such Interest Payment Date; provided, however, that if at the time of authentication of any Bond interest is in default, such Bond shall bear interest from the date to which interest has been paid.

- **Section 2.3** <u>Computation of Interest</u>. Interest on the Bonds shall be computed on the basis of a 360-day year of twelve 30-day months and shall be payable on each Interest Payment Date or other date fixed for the redemption or maturity of the Bonds.
- Section 2.4 Payment of Interest on and Principal of Bonds. Principal of and premium, if any, and interest on the Bonds shall be payable in lawful money of the United States of America, but only from the revenues lawfully available therefor pursuant to the Act and pledged to the payment thereof as hereinafter provided. Principal of and premium, if any, on the Bonds shall be payable upon presentation and surrender of the Bonds as they become due at the Designated Office of the Paying Agent. Interest on Bonds shall be payable to the registered owners of Bonds by check or draft mailed to such owners at their addresses as they appear on registration books kept by the bond registrar on the 15th day of the month preceding the applicable Interest Payment Date.
- Payments to Bondholders. The University shall, at appropriate times on Section 2.5 or before each Interest Payment Date or date on which principal of the Bonds comes due, whether by redemption or maturity, determine the amount required to pay principal of, redemption premium, if any, and interest on the Bonds then coming due and whether there are sufficient amounts available in the Debt Service Fund (such moneys are referred to as the "Sinking Fund Moneys Available for Payment") to pay the principal of, redemption premium, if any, and interest on the Bonds then coming due. If such Sinking Fund Moneys Available for Payment are determined by the University to be insufficient to make such payment then coming due on the Bonds, the University shall make available to the Paying Agent from Revenues or from Pledged General Revenues or other available moneys referred to in Section 7.14 of the Master Resolution, not later than 10:00 a.m., New York time, on the date such sums are due, an amount, which when added to the Sinking Fund Moneys Available for Payment, will be sufficient to pay the principal of, redemption premium, if any, and interest on the Bonds then coming due, and the Paying Agent shall pay or cause the same to be paid to the holders of the Bonds when due.
- Section 2.6 <u>Application of Proceeds of Bonds</u>. The proceeds from the sale of the Bonds shall be deposited into the Construction Fund to be used in accordance with the Master Resolution to pay the Cost of the Project and the costs of issuing the Bonds.
- **Section 2.7 Book Entry Provisions.** The provisions of this Section 2.7 shall apply to the Bonds so long as all of the Bonds shall be maintained in book-entry form with a Securities Depository, any other provisions of this Series Resolution to the contrary notwithstanding.
- (a) The principal or redemption price of and interest on the Bonds shall be payable to the Securities Depository, or registered assigns, as the registered owner of the Bonds, in same day funds on each date on which the principal of, and premium, if any, or interest on the Bonds

is due as set forth in this Series Resolution and in the Bonds. Such payments shall be made to the offices of the Securities Depository specified by the Securities Depository to the University and Paying Agent in writing. Without notice to or the consent of the beneficial owners of the Bonds, the University and the Securities Depository may agree in writing to make payments of principal and interest in a manner different from that set out herein. If such different manner of payment is agreed upon, the University shall give the Paying Agent written notice thereof, and the Paying Agent shall make payments as if set forth herein. Neither the University nor the Paying Agent shall have any obligation with respect to the transfer or crediting of the appropriate principal, premium, if any, and interest payments to participants of the Securities Depository or the beneficial owners of the Bonds or their nominees.

- (b) The Paying Agent, at the written direction of the University, may replace any Securities Depository as the depository for the Bonds with another qualified Securities Depository or discontinue the maintenance of the Bonds in book-entry form at any time if the University determines to do so. Notice of any determination above shall be given to such Securities Depository at least 30 days prior to any such discontinuation (or such fewer number of days as shall be acceptable to such Securities Depository). The University may undertake to locate a qualified replacement Securities Depository and/or may discontinue the book-entry system of evidencing ownership of the Bonds.
- (c) If the University discontinues the maintenance of the Bonds in book-entry form, the University will issue replacement Bonds directly to the participants in the former Securities Depository or, to the extent requested by any such participant, to the beneficial owners of Bonds as further described in this Section. The Paying Agent, at the written direction of the University, shall notify participants and the beneficial owners of the Bonds, by mailing an appropriate notice to the Securities Depository, or by other means deemed appropriate by either the Securities Depository or the Paying Agent, that the University will issue replacement Bonds directly to the participants shown on the records of the Securities Depository or, to the extent requested by any participant, to beneficial owners of the Bonds shown on the records of such participant, as of a date set forth in such notice, which shall be a date at least 10 days after receipt of such notice by the Securities Depository (or such fewer number of days as shall be acceptable to the Securities Depository).

In the event that replacement Bonds are to be issued to participants in the Securities Depository or to beneficial owners of the Bonds, the University shall promptly have prepared replacement Bonds registered in the names of the participants as shown on the records of the former Securities Depository or, to the extent requested by any participant, in the names of the beneficial owners of Bonds shown on the records of such participant, as of the date set forth in the notice delivered in accordance with the immediately preceding paragraph. Replacement Bonds issued to participants in the Securities Depository or to beneficial owners shall be in fully registered form substantially in the form of Exhibit A. The form set forth in Exhibit A may be modified to include any variations, omissions or insertions that are necessary or desirable in the delivery of replacement certificates in printed form. In delivering replacement certificates, the Paying Agent shall be entitled to rely, without independent investigation, on the records of the former Securities Depository as to its participants and the records of the participants acting on behalf of the beneficial owners. The Bonds will thereafter be registrable and exchangeable as set forth in the Master Resolution.

- (d) So long as there is a Securities Depository for the Bonds, (1) such Securities Depository shall be the registered owner of the Bonds, (2) transfers of ownership and exchanges shall be effected on the records of the Securities Depository and its participants pursuant to rules and procedures established by such Securities Depository and its participants, and (3) references in this Series Resolution to Bondholders, holders or registered owners of the Bonds shall mean the Securities Depository and shall not mean the beneficial owners of the Bonds.
- (e) If the University replaces any Securities Depository as the depository for the Bonds with another qualified Securities Depository, replacement Bonds issued to such replacement Securities Depository shall have the same terms, form and content as the Bonds initially registered in the name of the predecessor Securities Depository or its nominee except for the name of the registered owner.
- (f) Each Securities Depository and the participants thereof and the beneficial owners of the Bonds, by their acceptance of the Bonds, agree that the University and the Paying Agent shall have no liability or responsibility with respect to (1) the accuracy of any records maintained by such Securities Depository or any Securities Depository participant; (2) the payment by such Securities Depository to any Securities Depository participant or by any Securities Depository participant to any beneficial owner of any amount due in respect of the principal of and premium, if any, and interest on the Bonds; (3) the delivery or timeliness of delivery by such Securities Depository to any Securities Depository participant or by any Securities Depository participant to any beneficial owner of any notice which is given to Bondholders; (4) the selection of the beneficial owners to receive payment in the event of any partial redemption of the Bonds; or (5) any consent given or other action taken by such Securities Depository or any nominee of such Securities Depository, as Bondholder.
- Section 2.8 <u>Tax Covenants</u>. (a) The University shall not use or permit the use of any proceeds of Bonds or any other funds of the University directly or indirectly, to acquire any securities or obligation, and shall not use or permit the use of any amounts received by the University or the Custodian with respect to the Bonds in any manner, and shall not take or permit to be taken any other action or actions, which would cause any Bond to be an "arbitrage bond" within the meaning of Section 148 of the Code. If at any time the University is of the opinion that for purposes of this subsection it is necessary to restrict or limit the yield on the investment of any moneys held or controlled by it under this Series Resolution, the University shall so instruct the Custodian, any trustee or the Paying Agent in writing, and the Custodian, trustee or Paying Agent shall take such action as may be reasonably necessary in accordance with such instructions.
- (b) The University shall not use or permit the use of any proceeds of Bonds or any other funds of the University, directly or indirectly, in any manner, and shall not take or permit to be taken any other action or actions, which would result in any of the Bonds being treated as an obligation not described in Section 103(a) of the Code by reason of classification of such Bond as a "private activity bond," an "arbitrage bond" or "bond not in registered form" within the meaning of Section 103(b) of the Code.
- (c) The University shall at all times do and perform all acts and things permitted by law and this Series Resolution which are necessary or desirable in order to assure that interest

paid on the Bonds or any of them will be excludable from gross income for federal income tax purposes and shall take no action that would result in such interest not being excludable from gross income for federal income tax purposes.

- (d) The University covenants that no more than 10% of the space in the Project will be leased to or used exclusively by a private entity nor will more than 10% of the revenues to be derived from the Project be payable, directly or indirectly, by a private entity.
- (e) The University covenants that it shall file the information reports with respect to the Bonds required by Section 149(e) of the Code (currently Form 8038-G) within the time periods provided in such Section.
- (f) The University represents that the Bonds are not and will not be "federally guaranteed," as such term is used in Section 149(b) of the Code.
- (g) Notwithstanding the foregoing, the University may amend this section or alter or eliminate any actions or restrictions allowed or required by this section, if it receives an opinion of Bond Counsel that such amendments, alterations or eliminations would not alter the Bondholders' U.S. federal income tax treatment of principal and interest payments on the Bonds.
- Section 2.9 Arbitrage Rebate. The University, at its expense, shall take all steps necessary to cause the requirements of Section 148 of the Code to be complied with, including but not limited to all reporting and rebate requirements. Without limiting the generality of the foregoing the University, at its sole expense, shall: (i) pay the amount required to be paid to the United States of America in accordance with the rebate requirement described in Section 148(f) of the Code (the "Rebate Amount"); (ii) determine the Rebate Amount for each bond year and upon payment in full of all amounts due under the Bonds; (iii) retain records of all such determinations until six years after payment in full of all amounts due under the Bonds; and (iv) comply with any similar requirements contained in any temporary, proposed or permanent regulations of the Internal Revenue Service adopted with respect to Section 148(f) of the Code.

Notwithstanding anything to the contrary in this Series Resolution, no payment shall be made by the University to the United States of America if the University obtains an opinion of Bond Counsel to the effect that such payment is not required under Section 148 of the Code in order to prevent the Bonds from becoming "arbitrage bonds."

ARTICLE III REDEMPTION OF BONDS

Section 3.1 Redemption of Bonds. (a) The Bonds issued under the provisions of this Series Resolution shall not be subject to prior redemption except as provided in this Article III and as set forth in the form of the Bonds contained in Exhibit A. Subject to applicable procedures of the Securities Depository while the Bonds are held in book-entry only form by the Securities Depository, and except as otherwise provided in the case of extraordinary redemption of the Bonds in accordance with subsection (c) below, if less than all of the Bonds shall be called for redemption, the Bonds to be redeemed shall be selected by the University in such manner as the University in its discretion may determine.

- (b) The Bonds shall be subject to optional and mandatory redemption as set forth in the form of the Bonds contained in Exhibit A. The Bonds that may be subject to optional redemption, the redemption premiums, if any, due upon an optional redemption and the mandatory sinking fund redemption schedule, if any, shall be as approved by the Chief Financial Officer or the University Treasurer prior to the issuance of the Bonds. The execution of the Bonds by the University's President and by the Chief Financial Officer or the University Treasurer shall be conclusive evidence of his approval of such matters.
- (c) The Bonds shall also be subject to redemption in whole or in part on any date, at the option of the University, from the proceeds of casualty insurance or condemnation awards, at a redemption price equal to 100% of the principal amount thereof to be redeemed, without premium, plus accrued interest to the redemption date, if all or any part of the Project financed with the Bonds is damaged or destroyed or taken through the exercise of the power of eminent domain and an Authorized Officer has delivered a certificate to the Custodian to the effect that the University has determined not to use such proceeds to replace or rebuild the damaged, destroyed or taken property. In the event of a redemption in part pursuant to this paragraph, the University shall redeem the Bonds from each maturity then outstanding, to the extent practicable, in the proportion that the principal amount of the Bonds of such maturity bears to the total principal amount of the Bonds then outstanding.
- (d) At its option, to be exercised on or before the fortieth day next preceding any applicable sinking fund redemption date, the University may receive a credit against its mandatory sinking fund redemption obligation for the Bonds which prior to such date have been purchased by the University and presented to the Paying Agent for cancellation or redeemed (otherwise than through the operation of the sinking fund) and canceled by the Paying Agent and, in either case, not theretofore applied as a credit against any sinking fund redemption obligation.

Each Bond so purchased, delivered or previously redeemed shall be credited by the Paying Agent at 100% of the principal amount thereof against the obligation of the University on such sinking fund redemption date to redeem Bonds. Any excess over such obligation shall be credited against applicable future sinking fund redemption obligations, or deposits with respect thereto, in such order of maturity as shall be determined by the University, and the principal amount of such Bonds to be redeemed by operation of the sinking fund shall be accordingly reduced.

Section 3.2 Notice of Redemption. (a) Whenever Bonds are to be redeemed under the provisions of the Resolution, the Paying Agent shall, not less than 30 nor more than 60 days prior to the redemption date, mail notice of redemption to all registered owners of all Bonds to be redeemed at their registered addresses. The Paying Agent shall also mail a copy of any such notice of redemption to any Rating Agency. Any such notice of redemption shall be given in the name of the University, shall identify the Bonds to be redeemed, shall specify the redemption date and the redemption price, and shall state that on the redemption date the Bonds called for redemption will be payable at the office of the Paying Agent and that from that date interest will cease to accrue. The Paying Agent may use "CUSIP" numbers in notices of redemption as a convenience to Bondholders, provided that any such notice shall state that no representation is

made as to the correctness of such numbers either as printed on the Bonds or as contained in any notice of redemption.

If at the time of mailing of notice of any optional redemption the University shall not have caused to be deposited with the Paying Agent moneys sufficient to redeem all the Bonds called for redemption, such notice may state that it is conditional in that it is subject to the deposit of the redemption moneys with the Paying Agent not later than the redemption date, and such notice shall be of no effect unless such moneys are so deposited. Failure by the Paying Agent to give any notice of redemption or any defect in such notice as to any particular Bonds shall not affect the validity of the call for redemption of any Bonds in respect of which no such failure or defect has occurred. Any notice mailed as provided in this Series Resolution shall be conclusively presumed to have been given whether or not actually received by any holder.

ARTICLE IV GENERAL REVENUE PLEDGE; RELATED COVENANTS

- Section 4.1 <u>Pledge of Pledged General Revenues</u>. In addition to the pledge of Revenues securing the Bonds, the University hereby pledges its Pledged General Revenues to the payment of the principal, interest and premium on the Bonds.
- **Section 4.2** Additional Indebtedness and Encumbrances. The University may incur or issue other Credit Obligations payable from or secured by Pledged General Revenues only if the conditions set forth below in subsection (a), (b), (c) or (e) are met in each instance:
- Limitation on Parity Credit Obligations. All other Credit Obligations issued by the University on the date of issuance of the Bonds shall be Parity Credit Obligations insofar as Pledged General Revenues are concerned. The University may incur, assume, guarantee or otherwise become liable on any other Parity Credit Obligation, but only if, prior to the incurrence of each such Parity Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Parity Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Pledged General Revenue Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such Parity Credit Obligation and (B) the completion of any facility financed with the proceeds of such Parity Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Parity Credit Obligation, and (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of the Resolution. Any such Parity Credit Obligation shall be designated by the University as a Parity Credit Obligation and shall be secured by a pledge of Pledged General Revenues on a parity with the pledge of Pledged General Revenues herein, unless expressly subordinated to the pledge hereof.
- (b) <u>Limitation on Section 9(c) Credit Obligations</u>. The University may incur, assume, guarantee or otherwise become liable on any Credit Obligation pursuant to the

provisions of Article X, Section 9(c) of the Constitution of Virginia, as such section may be amended from time to time, and may pledge and apply such portion of the Pledged General Revenues as may be necessary to provide for the payment of any such Credit Obligation, the funding of reasonable reserves therefor, or the payment of operating and other reasonable expenses of the facilities financed in whole or in part with the proceeds of such Credit Obligation or facilities reasonably related to such facilities, but only if, prior to the incurrence of each such Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Pledged General Revenue Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such proposed Credit Obligation and (B) the completion of any facility financed with the proceeds of such proposed Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Credit Obligation, (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of the Resolution, and (3) in connection with the issuance of such proposed Credit Obligation, the University has received an opinion of Bond Counsel to the effect that such proposed Credit Obligation has been validly issued under Article X, Section 9(c) of the Constitution of Virginia. If any such Credit Obligation is designated by the University as a Qualifying Senior Obligation, the pledge of Pledged General Revenues securing such Credit Obligation as described above shall be senior and superior in all respects to the pledge of Pledged General Revenues securing the Bonds, any other Parity Credit Obligations and any Parity Pledged General Revenue Swap Obligations.

Limitation on Other Credit Obligations, Including Section 9(d) Credit Obligations. The University may incur, assume, guarantee or otherwise become liable on any Credit Obligation not described elsewhere in this Section 4.2, including any Credit Obligation incurred pursuant to the provisions of Article X, Section 9(d) of the Constitution of Virginia, as such section may be amended from time to time, and may pledge and apply such portion of the Pledged General Revenues as may be necessary for the payment of any such Credit Obligation, the funding of reasonable reserves therefor, or the payment of operating and other reasonable expenses of the facilities financed in whole or in part with the proceeds of such Credit Obligation or facilities reasonably related to such facilities, but only if, prior to the incurrence of each such Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Pledged General Revenue Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such proposed Credit Obligation and (B) the completion of any facility financed with the proceeds of such proposed Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Credit Obligation, (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of the Resolution, and (3) the

University has received an opinion of Bond Counsel to the effect that such proposed Credit Obligation has been validly issued under the relevant provisions of the Constitution of Virginia. If any such Credit Obligation is designated by the University as a Qualifying Senior Obligation, the pledge of Pledged General Revenues securing such Credit Obligation as described above shall be senior and superior in all respects to the pledge of Pledged General Revenues securing the Bonds, any other Parity Credit Obligations and any Parity Pledged General Revenue Swap Obligations.

- (d) <u>Limitation on Issuance of Indebtedness on a Parity with Qualifying Senior Obligations</u>. Except for Credit Obligations issued pursuant to subsections (b) or (c) above or to refund any Qualifying Senior Obligation as described in subsection (e) below, no additional bonds or other obligations may be issued or incurred by the University on a parity with any Qualifying Senior Obligation.
- (e) <u>Limitation on Issuance of other Credit Obligations or Additional Encumbrances</u>. The University shall not issue Credit Obligations payable from Pledged General Revenues or otherwise encumber the Pledged General Revenues in any manner (except as permitted in connection with Parity Pledged General Revenue Swap Obligations pursuant to Section 4.3 or Credit Obligations issued pursuant to subsections (a), (b) or (c) above or to refund any Qualifying Senior Obligation as described below), unless any such encumbrance is made junior and subordinate in all respects to the liens, pledges, covenants and agreements of this Series Resolution. Notwithstanding anything to the contrary herein, however, the University may issue bonds to refund any Qualifying Senior Obligation and to secure such refunding bonds with the same source of revenues securing the Qualifying Senior Obligation being refunded. Upon the defeasance of the refunded Qualifying Senior Obligation pursuant to any such refunding, the refunding bonds will be considered Qualifying Senior Obligations for all purposes.
- (f) <u>Credit Obligations Payable from System Revenues</u>. The issuance of Credit Obligations payable from Revenues of the System shall be as provided in the Master Resolution.
- **Section 4.3** <u>Interest Rate Agreements</u>. The University may enter into Interest Rate Agreements, the amounts payable by the University under which are on a parity, or are subordinate, as to right to payment from Pledged General Revenues with the Bonds. Each Parity Pledged General Revenue Interest Rate Agreement shall designate which payments thereon, whether regularly scheduled payments, termination payments or other payments, are on a parity with the holders of the Bonds as to the right to payment from Pledged General Revenues.
- Section 4.4 <u>Disposition of Assets</u>. The University may convey, sell or otherwise dispose of any property of the University as long as (1) such conveyance, sale or encumbrance is in the ordinary course of business, or (2) an Authorized Officer certifies in writing that, taking into account the conveyance, sale or other disposition of such property (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Interest Rate Agreements, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after such conveyance, sale or other disposition and (ii)

such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts due under all indebtedness of the University then outstanding.

- Section 4.5 <u>Insurance</u>. The University covenants that it will at all times carry or cause to be carried insurance policies with a responsible insurance company or companies, qualified to assume the risks thereof, or that it will maintain an adequate program of self-insurance, in either case sufficient to provide the University with insurance in such amount and covering such risks as the University shall deem to be reasonable and desirable.
- **Section 4.6** Rights of Bondholders Not to Be Impaired. Except as otherwise set forth in the Resolution, the University covenants that no contract or contracts will be entered into or any action taken which might impair or diminish the rights of the Bondholders.
- **Section 4.7** Further Instruments and Actions. The University covenants that it will, from time to time, execute and deliver such further instruments and take such further action as may be required to carry out the purposes of this Series Resolution.
- **Section 4.8** Accurate Records and Accounts. The University covenants that it will keep accurate records and accounts of all items of cost and of all expenditures relating to Pledged General Revenues collected and the application of such Pledged General Revenues.
- **Section 4.9** Recognized Accounting Principles. The University covenants that all of the accounts and records of the University will be kept according to generally accepted accounting principles consistently applied.

ARTICLE V AMENDMENTS AND SUPPLEMENTS

- **Section 5.1** <u>Amendments to Series Resolution</u>. This Series Resolution may be amended or supplemented in a similar manner and upon similar terms and conditions as the Master Resolution may be amended or supplemented.
- Section 5.2 Amendments to Series Resolution Prior to Delivery of Bonds. On or prior to the delivery of the Bonds, the Chief Financial Officer or the University Treasurer may make such changes to, and complete any blanks in, this Series Resolution as shall be necessary to accurately reflect all negotiations among the University and the Underwriters with respect to the structuring of the financing, including, without limitation, the terms and provisions of the Bonds; provided, however, that no such amendment shall increase the principal amount of the Bonds by greater than 10%. On or prior to the delivery of the Bonds, the Chief Financial Officer or the University Treasurer shall deliver to the Secretary of the Board a copy of this Series Resolution with all of the changes and completions referred to in the preceding sentence (the "Final Resolution"), together with a certificate of the Chief Financial Officer or the University Treasurer to the effect that the resolution so delivered is the Final Resolution. The Secretary shall file such Final Resolution with the minutes of the meeting at which this Series Resolution is adopted. The certificate of the Chief Financial Officer or the University Treasurer referred to above shall be conclusive evidence that any changes made are approved and effective as if such Final Resolution were adopted by the Board.

ARTICLE VI MISCELLANEOUS

- **Section 6.1** Approval, Execution and Delivery of Necessary and Appropriate Documents. The Preliminary Official Statement of the University relating to the offering of the Bonds for sale, and the distribution thereof by the Underwriters, are hereby approved, ratified and confirmed. The Chief Financial Officer or the University Treasurer is authorized to "deem final" the Preliminary Official Statement as of its date, within the meaning of Rule 15c2-12 of the Securities and Exchange Commission. The Chief Financial Officer or the University Treasurer is also authorized to negotiate, execute and deliver and deem final, in necessary and appropriate form, the following documents:
- (a) a final Official Statement relating to the offering of the Bonds for sale, in substantially the form presented at the meeting at which this Series Resolution is adopted;
- (b) the Bond Purchase Agreement relating to the purchase of the Bonds, in substantially the form presented at the meeting at which this Series Resolution is adopted, such Bond Purchase Agreement to provide for a true interest cost not to exceed 5.00% per annum;
- (c) the University's Continuing Disclosure Agreement for the benefit of the Bondholders, in substantially the form presented at the meeting at which this Series Resolution is adopted; and
- (d) such other documents and instruments as he deems necessary or appropriate in connection with the issuance of the Bonds, so long as such documents and instruments do not conflict with the intent of this Series Resolution.
- **Section 6.2 Bond Delivery.** All directors, officers and employees of the University are hereby authorized to take all actions necessary to accomplish the delivery of the Bonds to the Underwriters.
- **Section 6.3** Governing Law. This Series Resolution is adopted with the intent that the laws of the Commonwealth shall govern its construction.
- **Section 6.4** Repeal of Inconsistent Provisions. Any prior resolutions or provisions of resolutions of the Board inconsistent with any provisions of this Series Resolution are hereby repealed.
- Section 6.5 <u>Effect of Partial Invalidity</u>. In case any one or more of the provisions of this Series Resolution or of the Bonds issued hereunder shall for any reason be held to be illegal or invalid, such illegality or invalidity shall not affect any other provision of this Series Resolution or of the Bonds, but this Series Resolution and the Bonds shall be construed and enforced as if such illegal or invalid provision had not been contained therein. In case any covenant, stipulation, obligation or agreement contained in the Bonds or in this Series Resolution shall for any reason be held to be in violation of law, then such covenant, stipulation, obligation or agreement shall be deemed to be the covenant, stipulation, obligation or agreement of the University to the full extent permitted by law.

Section 6.6 <u>Effective Date of this Series Resolution</u>. This Series Resolution shall become effective subsequent to its adoption by the Board on the date as determined by an Authorized Officer of the University, any of whom may act, which shall be no earlier than the effective date of the Master Resolution.

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UNITED STATES OF AMERICA COMMONWEALTH OF VIRGINIA

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

DORMITORY AND DINING HALL SYSTEM AND GENERAL REVENUE PLEDGE BOND, SERIES 2015A

INTEREST RATE	MATURITY DATE June 1,	DATED DATE October, 2015	CUSIP
REGISTERED OWNER:			
PRINCIPAL AMOUNT:		DOLLARS	2)2

Virginia Polytechnic Institute and State University (the "University"), the educational institution at Blacksburg, Virginia, for value received, hereby promises to pay, solely from the funds provided therefor as hereinafter set forth, to the registered owner named above, on the maturity date set forth above (or earlier as hereinafter set forth), upon the presentation and surrender hereof, the principal sum set forth above and to pay, solely from said funds, interest thereon from the date hereof at the rate per annum set forth above, until payment of said principal sum. Both the principal of and the interest on this Bond are payable in any coin or currency of the United States of America which on the respective dates of payment thereof is legal tender for the payment of public and private debts. The principal or redemption price of this Bond shall be payable, upon surrender of this Bond, at the office of The Bank of New York Mellon Trust Company, N.A., Pittsburgh, Pennsylvania, as Paying Agent (the "Paying Agent"), or at the designated corporate trust office of any successor Paying Agent appointed pursuant to the Series Resolution (hereinafter defined). Payment of interest on this Bond shall be made by check or draft mailed on the Interest Payment Date to the registered owner as of the close of business on the 15th day of the month immediately preceding such Interest Payment Date (the "Record Date") at his address as it appears on the registration books of The Bank of New York Mellon Trust Company, N.A., Pittsburgh, Pennsylvania, as Registrar (the "Registrar"), or any successor Registrar appointed pursuant to the Series Resolution. Notwithstanding the foregoing, if and for so long as Cede & Co. or any other nominee of The Depository Trust Company, New York, New York, is registered owner of all of the Bonds, the principal of and premium, if any, on this Bond shall be paid to Cede & Co. or such other nominee as provided under the Series Resolution. The term "Interest Payment Date" means each December 1 and June 1, commencing June 1, 2016 (unless such date is not a Business Day, in which event payment of interest shall be made on the next succeeding Business Day).

This Bond shall bear interest from the Interest Payment Date next preceding the date on which it is authenticated, unless this Bond is (a) authenticated before the first Interest Payment Date following the initial delivery of the Bonds, in which case it shall bear interest from its dated

date or (b) authenticated upon an Interest Payment Date, in which case it shall bear interest from such Interest Payment Date; provided, however, that if at the time of authentication of this Bond interest is in default, this Bond shall bear interest from the date to which interest has been paid. Interest on this Bond shall be computed on the basis of a 360-day year of twelve 30-day months.

The University shall not be obligated to pay the principal of or interest on this Bond except from the Pledged General Revenues and the Net Revenues of the University's Dormitory and Dining Hall System and other legally available moneys, all as provided in the Resolution hereinafter referred to. This Bond and the interest hereon shall not be deemed to constitute a debt or liability of the Commonwealth of Virginia, legal, moral or otherwise. Neither the Commonwealth of Virginia nor the University shall be obligated to pay the principal of or interest on this Bond or other costs incident thereto except from the sources noted above, and neither the faith and credit nor the taxing power of the Commonwealth of Virginia nor any other revenues or funds of the University are pledged to the payment of the principal of or interest on this Bond or other costs incident thereto.

This Bond is one of a duly authorized issue of Bonds of the University aggregating in principal amount, known as "Dormitory and Dining Hall System and General Revenue Pledge Bonds, Series 2015A" (the "Bonds"), issued under and pursuant to a resolution adopted by the Board of Visitors of the University (the "Board") on August 31, 2015 (the "Master Resolution"), as supplemented by a Series Resolution adopted by the Board on August 31, 2015 (the "Series Resolution") (said Master Resolution, as supplemented, being herein called the "Resolution"). This Bond is issued and the Resolution was adopted under and pursuant to the Constitution and laws of the Commonwealth of Virginia, particularly Chapter 4.10, Title 23, Code of Virginia of 1950, as amended (herein called the "Act") to finance the costs of two residential facilities at the University (the "Project"). Reference is hereby made to the Resolution for the provisions, among others, with respect to the custody and application of the proceeds of Bonds issued under the Resolution, the collection and disposition of revenues, the funds charged with and pledged to the payment of the interest on and the principal of the Bonds, the nature and extent of the security, the terms and conditions on which the Bonds are or may be issued, the rights, duties and obligations of the University and the rights of the holders of the Bonds. Capitalized terms not defined herein shall be as defined in the Resolution. By the acceptance of this Bond, the holder hereof assents to all of the provisions of the Resolution.

The Resolution provides for the issuance from time to time, under the conditions, limitations and restrictions set forth therein, of additional series of bonds on a parity with the Bonds.

The Bonds maturing on or after June 1, 20_ are subject to optional redemption by the University on or after June 1, 20_ in whole or in part at any time (in any integral multiple of \$5,000) at the redemption prices (expressed as percentages of principal amount of Bonds to be redeemed) set forth below plus accrued interest to the redemption date:

Redemption Period		<u>Price</u>
June 1, 20_	_ through May 31, 20	%
June 1, 20	through May 31, 20	

June 1, 20__ and thereafter

The Bonds maturing on June 1, 20__ are subject to mandatory sinking fund redemption prior to maturity, on each June 1 of the following years in the following principal amounts at a redemption price equal to 100% of the principal amount thereof, plus accrued interest to the redemption date:

<u>Year</u>	Amount
20	\$
20	
20	
20	
20	
20	
20 (Final Maturity)	

The Bonds are also subject to redemption in whole or in part on any date, at the option of the University, from the proceeds of casualty insurance or condemnation awards, at a redemption price equal to 100% of the principal amount thereof to be redeemed, without premium, plus accrued interest to the redemption date, if all or any part of the Project is damaged, destroyed or taken through the exercise of the power of eminent domain and the University has determined not to use such proceeds to replace or rebuild the damaged, destroyed or taken property. In the event of a redemption in part pursuant to this paragraph, the University shall redeem the Bonds from each maturity then outstanding, to the extent practicable, in the proportion that the principal amount of the Bonds of such maturity bears to the total principal amount of the Bonds then outstanding.

Subject to applicable procedures of the Securities Depository while the Bonds are held in book-entry only form by the Securities Depository, and except as otherwise provided in the case of extraordinary redemption of the Bonds in accordance with the preceding paragraph, if less than all of the Bonds are to be redeemed, the Bonds (or portions of Bonds) to be redeemed shall be selected by the University in such manner as the University in its discretion may determine.

This Bond is transferable by the registered owner, in person or by its attorney duly authorized in writing, at the designated office of the Registrar, upon presentation of a written instrument of transfer and surrender of this Bond to the Registrar for cancellation. Upon the transfer, a new Bond or Bonds of the same aggregate principal amount, maturity date and interest rate will be issued to the transferee. No transfer will be effective unless represented by such surrender and reissue. This Bond may also be exchanged at the designated office of the Registrar for a new Bond or Bonds of the same aggregate principal amount, maturity date and interest rate without transfer to a new registered owner. Exchanges and transfers will be without expense to the holder except for applicable taxes or other governmental charges, if any. The Registrar shall not be required to transfer or exchange any Bond selected or called for redemption pursuant to the provisions hereof or from a Record Date through the next succeeding Interest Payment Date. All Bonds delivered in exchange or transfer shall be dated so that neither gain nor loss results from the transfer or exchange.

The University, the Paying Agent and the Registrar may treat the registered owner as the absolute owner of this Bond for all purposes, notwithstanding any notice to the contrary.

Neither the members of the Board nor any person executing this Bond are liable personally hereon or subject to any personal liability or accountability by reason of the issuance hereof.

This Bond will not be valid until the Certificate of Authentication has been signed by the Registrar.

The holder of this Bond shall have no right to enforce the provisions of the Resolution or to institute action to enforce the covenants therein, or to take any action with respect to any Event of Default under the Resolution, or to institute, appear in or defend any suit or other proceeding with respect thereto, except as provided in the Resolution.

All acts, conditions and things required by the Constitution and laws of the Commonwealth of Virginia and by the rules and regulations of the Board to happen, exist and be performed precedent to and in the issuance of this Bond have happened, exist and have been performed as so required.

IN WITNESS WHEREOF, Virginia Polytechnic Institute and State University has caused this Bond to be issued in its name and caused this Bond to bear the manual or facsimile signatures of its President and the University's Chief Financial Officer or the University's Treasurer and its official seal to be impressed or imprinted hereon, all as of the dated date hereof.

[SEAL]

[Chief Financial Officer] [Treasurer] of Virginia Polytechnic Institute and State University

President of Virginia Polytechnic Institute and State University

CERTIFICATE OF AUTHENTICATION

This Bond is one of the Bonds described in the within-mentioned Series Resolution.

Date of Authentication:	
, 2015	
	THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., as Registrar
	Authorized Signatory

FORM OF ASSIGNMENT

FOR VALUE RECEIVE unto	ED the undersigned hereby sells, assigns and transfers
(Please print or typewrite name and add	lress, including zip code, of Transferee)
	SERT SOCIAL SECURITY OR YING NUMBERS OF TRANSFEREE
_	under, and hereby irrevocably constitutes and appoints attorney to oks kept for registration thereof, with full power of
Dated:	
	Registered Owner
	The signature above must correspond to the name of the Registered Owner as it appears on the front of this Bond in every particular, without alteration or enlargement or any change whatsoever.
	Signature Guaranteed
	Notice: Signature(s) must be guaranteed by an approved eligible guarantor institution — an institution which is a participant in a Securities Transfer Association recognized signature guarantee program.

#26364654v2 206702.024

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

AMENDED AND RESTATED RESOLUTION

AUTHORIZING AND SECURING UNIVERSITY SERVICES SYSTEM REVENUE BONDS

ADOPTED ON AUGUST 31, 2015

EFFECTIVE ON _______, 2015, THE DATE SPECIFIED IN SECTION 13.9

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AN AMENDED AND RESTATED RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY UNIVERSITY SERVICES SYSTEM REVENUE BONDS; PROVIDING FOR A UNIVERSITY SERVICES SYSTEM FOR OPERATING AND FINANCING PURPOSES; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF, THE PREMIUM, IF ANY, AND THE INTEREST ON SUCH BONDS THE NET REVENUES OF THE UNIVERSITY SERVICES SYSTEM AS PROVIDED HEREIN; AND SETTING FORTH THE RIGHTS AND REMEDIES OF THE HOLDERS OF SUCH BONDS.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. On August 26, 1996, the Board adopted a resolution entitled "Resolution Authorizing and Securing University Services System Revenue Bonds" (the "1996 Master Resolution") pursuant to which it formed a single system for the purpose of operating and financing its university services facilities (the "University Services System") with bonds issued under Chapter 3 (§ 23-14 et seq.) of Title 23 (the "General Higher Education Bond Act") subject to the requisite approvals of the General Assembly, the Governor and the Treasury Board of the Commonwealth of Virginia (the "Commonwealth").
- D. Pursuant to a resolution entitled "Series Resolution Authorizing and Securing University Services System and General Revenue Pledge Refunding Bonds, Series 2004C" adopted by the Board on March 29, 2004 (the "2004 Series Resolution"), the University issued its revenue bonds, payable from and secured by, among things, the revenues of the University Services System in the original aggregate principal amount of \$15,105,000 and designated "University Services System and General Revenue Pledge Refunding Bonds, Series 2004C" dated May 1, 2004 (the "Series 2004C Bonds"). The payment of principal of and interest on the Series 2004C Bonds is insured by a Financial Guaranty Insurance Policy (the "2004 Bond Insurance Policy") issued by Ambac Assurance Corporation ("Ambac").
- E. Contemporaneously with the effective date of, and issuance of the initial Series of Bonds under, this Resolution, moneys of the University will have been applied to optionally redeem all of the Series 2004C Bonds, and there will be no other bonds issued and outstanding under the 1996 Master Resolution.
- F. Section 10.3 of the 1996 Master Resolution provides that it may be amended and modified by the Board with the consent of the Governor and the Treasury Board of the Commonwealth and the holders of the requisite percentage in aggregate principal amount of bonds then outstanding specified therein.

- G. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project, and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to the General Higher Education Bond Act.
- H. As provided in Section 23-38.108 of the Act, bonds issued by the University pursuant thereto may be payable as to principal and interest from, among other sources, any or all of (1) its revenues generally, (2) income and revenues derived from the operation of a particular project or projects, whether or not they are financed or refinanced from the proceeds of such bonds, or (3) other available funds of the University.
- I. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to the General Higher Education Bond Act.
- J. The Act is silent on certain rights typically afforded to the holders of bonds issued by institutions of higher education and permits the University to determine those rights. It is the intent of the University that the holders of the Bonds shall have rights comparable to those provided to the holders of bonds issued under the General Higher Education Bond Act pursuant to Sections 23-20 and 23-26 of the Code of Virginia of 1950, as amended.
- K. The Board has determined not to issue any additional bonds under the 1996 Master Resolution and to amend, supplement and restate in its entirety the 1996 Master Resolution all in the manner hereinafter set forth with the consent of the Governor and Treasury Board of the Commonwealth, but without the consent of Ambac or the holders of the Series 2004C Bonds which will have been redeemed in full and, therefore, will not be affected by such modifications to the 1996 Master Resolution, for the purpose of maintaining a single system for the operation and financing of its existing university services facilities originally established pursuant to the 1996 Master Resolution and any additional university services facilities financed or refinanced with Bonds issued under this Resolution while (1) providing additional operational flexibility for the university services system not contemplated by the 1996 Master Resolution and (2) facilitating the issuance of Bonds and setting forth the rights of the holders thereof without oversight from the General Assembly, the Governor and the Treasury Board required by the General Higher Education Bond Act and the 1996 Master Resolution, but no longer applicable by the terms of the Act.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF VISITORS OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY:

ARTICLE I

DEFINITIONS

Section 1.1 <u>Definitions</u>. In addition to words and terms defined in the Recitals and elsewhere in this Resolution, the following words and terms as used in this Resolution shall have the following meanings, unless some other meaning is plainly intended:

"Additional Facilities" shall mean any additional university services or other facilities or any part thereof and any additions, extensions and improvements to the System, which are financed or refinanced under the provisions of this Resolution, or the revenues from which have been added to Revenues pursuant to the provisions of Section 7.1.

"Annual Budget" shall mean the University's budget of Current Expenses of the System for a Fiscal Year adopted by the Board pursuant to the provisions of Section 5.5. The Board may consider the Annual Budget for the System as a separate budget or as a separate and identifiable component of the overall University budget.

"Authorized Officer" shall mean (i) in the case of the University, the President of the University, the Chief Financial Officer or the University Treasurer and, when used with reference to any act or document also means any other person authorized by appropriate action of the Board to perform such act or execute such document on behalf of the University; and (ii) in the case of the Paying Agent or the Custodian (if not the State Treasurer), the President, any Vice-President, any Assistant Vice-President, any Corporate Trust Officer or any Assistant Corporate Trust Officer of the Paying Agent or the Custodian, and when used with reference to any act or document also means any other person authorized to perform such act or execute such document by or pursuant to a resolution of the governing body of the Paying Agent or the Custodian.

"Balloon Bond" shall mean any Bond, 25% or more of the original principal amount of which matures during any consecutive 12 month period, if such maturing principal amount is not required to be amortized below such percentage by mandatory redemption or prepayment before such twelve-month period. Balloon Bond does not include any Bond that otherwise would be classified hereunder as a Put Bond.

"Board" shall mean the Board of Visitors of the University or, if said Board shall be abolished, the board or body succeeding to the principal functions thereof.

"Bond Counsel" shall mean any firm of attorneys selected by the University and experienced in the issuance of municipal bonds and matters relating to the exclusion of the interest thereon from gross income for federal income tax purposes, which may be an attorney or firm regularly providing services to the University, the Paying Agent, the Underwriters or any Bondholder.

"Bondholder," "Holder" or "holder" when used herein with respect to Bonds issued hereunder shall mean the holder or registered owner, as the case may be, of Bonds at the time issued and outstanding hereunder.

"Bonds" shall mean the bonds authorized under and secured by this Resolution.

"Business Day" shall mean a day other than (i) a Saturday, Sunday or other day on which banking institutions in the Commonwealth or the city in which the Designated Office of the Paying Agent is located are authorized or required by law to close or (ii) a day on which the New York Stock Exchange is closed.

"Chief Financial Officer" shall mean the University's chief financial officer, or such other officer of the University having similar duties as may be selected by the Board.

"Code" shall mean the Internal Revenue Code of 1986, as amended. Each citation to a Code section shall include the applicable temporary, proposed and permanent regulations, revenue rulings and revenue procedures.

"Commonwealth" shall mean the Commonwealth of Virginia.

"Construction Fund" shall mean the Virginia Polytechnic Institute and State University University Services System Construction Fund, a special fund created and designated by Section 4.1.

"Cost," as applied to a Project, shall embrace the cost of building, constructing, reconstructing, erecting, extending, bettering, equipping and improving a Project and all obligations and expenses and all items of cost which are set forth in Section 4.2.

"Credit Facility Agreement" shall mean an irrevocable letter of credit, insurance policy, guaranty or surety bond providing for the payment of or guarantying the payment of principal and purchase price of and interest on Bonds when due.

"Credit Obligation" of the University shall mean any indebtedness incurred or assumed by the University for borrowed money and any other financing obligation of the University that, in accordance with generally accepted accounting principles consistently applied, is shown on the liability side of a balance sheet; provided, however, that Credit Obligation shall not include any portion of any capitalized lease payment directly appropriated from general funds of the Commonwealth or reasonably expected to be so appropriated as certified by the Chief Financial Officer or the University Treasurer, but only to the extent such appropriation is restricted by the Commonwealth to the payment of such capitalized lease obligation. Credit Obligation shall not include any Interest Rate Agreement.

"Current Expenses" shall mean the University's reasonable and necessary current expenses of maintenance, repair and operation of the System and shall include, without limiting the generality of the foregoing, all ordinary and usual expenses of maintenance, repair and operation, which may include expenses not annually recurring, premiums for insurance, all administrative, engineering and architectural expenses relating to maintenance, repair and operation, legal expenses, any reasonable payments to pension or retirement funds, and any other expenses required or permitted to be paid by the University under the provisions of this Resolution or by law, but shall not include any reserves for extraordinary maintenance or repair, any allowance for depreciation, or any general administrative expenses of the University not

attributable to the System, or any debt service amounts or other amounts payable on the Bonds, Parity Indebtedness, Parity Swap Obligations or Subordinate Obligations.

"Custodian" shall mean The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and its successors, or such other bank or financial institution designated by the University to hold funds under this Resolution.

"Debt Service Fund" shall mean the Virginia Polytechnic Institute and State University University Services System Debt Service Fund, a special fund created and designated by Section 5.7.

"Designated Office" shall mean, when used in reference to the Paying Agent, the corporate trust office of the Paying Agent designated as such, which shall initially be 525 William Penn Place, 38th Floor, Pittsburgh, Pennsylvania 15259.

"Excluded Facilities" shall mean any Existing Facilities or Additional Facilities the revenues from which have been excluded from Revenues pursuant to the provisions of Section 7.1.

"Existing Facilities" shall mean the university services facilities owned and/or operated by the University as of August 31, 2015, which are currently included in the University's University Services System.

"Fiscal Year" shall mean the period commencing on the first day of July in any year and ending on the last day of June of the following year.

"Hedge Provider" shall mean the counterparty to any Interest Rate Agreement to which the University is a party.

"Interest Rate Agreement" shall mean an interest rate exchange, hedge or similar agreement, expressly identified in a certificate of an Authorized Officer of the University, executed at the settlement date therefor or effective date thereof and kept with the University's executed copy of the agreement, as being or as having been entered into in order to hedge the interest payable on all or a portion of any Credit Obligation, which agreement may include, without limitation, an interest rate swap, a forward or futures contract or an option (e.g. a call, put, cap, floor or collar) and which agreement does not constitute an obligation to repay money borrowed, credit extended or the equivalent thereof. An Interest Rate Agreement does not constitute a Credit Obligation hereunder.

"Net Revenues" for any particular period, shall mean the amount of the excess of the total of the amounts deposited into the Revenue Fund pursuant to Section 5.3 over the total of the Current Expenses for the System during such period.

"Parity Indebtedness" shall mean any Credit Obligation of the University which currently exists or which may be incurred in accordance with the terms of this Resolution that is secured on a parity with the pledge of Revenues herein.

"Parity Interest Rate Agreement" shall mean any Interest Rate Agreement, any portion of the payments by the University under which is on a parity as to right to payment from Revenues, and is equally and ratably secured by a pledge of such Revenues, with the holders of all Bonds issued under this Resolution.

"Parity Swap Obligations" shall mean the amounts payable by the University to the Hedge Provider pursuant to a Parity Interest Rate Agreement that, as specified in the Parity Interest Rate Agreement, are on a parity as to right to payment from Revenues, and are equally and ratably secured by a pledge of such Revenues, with the holders of all Bonds issued under this Resolution.

"Paying Agent" shall mean initially The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and its successors and any other corporation that may at any time be substituted in its place in accordance with Section 13.2 of this Resolution.

"Principal and Interest Requirements" shall mean the aggregate of the principal of (whether at maturity, by mandatory redemption or mandatory prepayment or acceleration) and interest on all outstanding Bonds payable during a particular Fiscal Year; provided that the amount of such payments shall be calculated in accordance with the assumptions set forth in Section 7.16.

"Project" shall mean the building, construction, reconstruction, execution, extension, betterment, equipping and improvement of any portion of the System, including Additional Facilities, as more particularly described in each Series Resolution.

"Put Bond" shall mean any Bond that is (i) payable or required to be purchased by or on behalf of the underlying obligor, at its owner's option, before its stated maturity date or (ii) payable or required to be purchased from the owner by or on behalf of the underlying obligor (other than at the owner's option) before its stated maturity date.

"Registrar" shall mean initially The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and any successor Registrar appointed pursuant to Section 13.2 of this Resolution.

"Reserve Fund" shall mean the Virginia Polytechnic Institute and State University University Services System Reserve Fund, a special fund created and designated by Section 5.9.

"Reserve Fund Credit Facility Agreement" shall mean an irrevocable letter of credit, insurance policy, guaranty or surety bond providing for the deposit of or guarantying the deposit of the Reserve Fund Requirement with respect to a Series of Bonds into the Reserve Fund if the moneys held to the credit of the Debt Service Fund shall be insufficient for its purposes.

"Reserve Fund Requirement" shall mean with respect to a Series of Bonds an amount equal to the least of (i) the maximum Principal and Interest Requirement of such Series of Bonds for any Fiscal Year; (ii) 10% of the original proceeds (excluding accrued interest) of such Series of Bonds; and (iii) 125% of the average annual Principal and Interest Requirement of such Series of Bonds.

"Resolution" shall mean this Resolution, together with any Series Resolution and all other resolutions supplemental hereto as herein permitted.

"Revenue Fund" shall mean the Virginia Polytechnic Institute and State University University Services System Revenue Fund, a special fund created and designated by Section 5.3.

"Revenues" for any particular period, shall mean the fees, rents and charges and other revenues derived by the University from its operation and ownership of the System during such period and deposited to the credit of the Revenue Fund pursuant to the provisions of Section 5.3, any additions to Revenues made pursuant to the provisions of Section 7.1, and any transfers to, and less any transfers from, the Revenue Fund pursuant to the provisions of Section 6.2, but shall not include (i) any moneys deposited or transferred to the credit of the Reserve Fund pursuant to the provisions of Section 5.9, or (ii) any revenues excluded from Revenues pursuant to the provisions of Section 7.1.

"Series," whenever used herein with respect to Bonds, shall mean all of the Bonds designated as being of the same series, authenticated and delivered in a simultaneous transaction, regardless of variations in maturity, interest rate, redemption and other provisions, and any Bonds thereafter authenticated and delivered upon transfer or exchange of or in lieu of or in substitution for (but not to refund) such Bonds as herein provided.

"Series Resolution" shall mean the resolution of the Board under which Bonds of any Series are or will be issued.

"State Treasurer" shall mean the State Treasurer of the Commonwealth.

"Subordinate Obligations" shall mean any obligations, whether or not Credit Obligations, issued or incurred by the University, including obligations under bonds, notes or Interest Rate Agreements, which are payable from the Net Revenues of the System subordinate and junior to the Bonds.

"Surplus Fund" shall mean the Virginia Polytechnic Institute and State University University Services System Surplus Fund, a special fund created and designated by Section 5.4.

"System" shall mean the Existing Facilities and Additional Facilities, but shall not include any Excluded Facilities.

"University" shall mean Virginia Polytechnic Institute and State University, Blacksburg, Virginia, an educational institution and a public body and governmental instrumentality for the dissemination of education, and its successor or successors.

"Variable Rate Bond" means any Bond the interest rate on which is not established at the time of incurrence at a fixed or constant rate.

Section 1.2 Rules of Construction/Use of Words and Phrases. Words of the masculine gender shall be deemed and construed to include correlative words of the feminine and neuter genders. Unless the context shall otherwise indicate, the word "person" shall include

corporations and associations, including public bodies, as well as natural persons. Singular words shall connote the plural number as well as the singular and vice versa.

All references in the Resolution to particular Articles or Sections are references to Articles or Sections of the Resolution unless otherwise indicated.

The headings and table of contents as used in the Resolution are solely for convenience of reference and shall not constitute a part of the Resolution nor shall they affect its meaning, construction or effect.

ARTICLE II

FORM, EXECUTION, DELIVERY AND REGISTRATION OF BONDS

Section 2.1 <u>Authorization of Bonds</u>. For the purpose of providing funds for paying the Cost of Projects permitted under the Act, there shall be issued, under the authority of the Act, Bonds of the University subject to the conditions hereinafter provided in Section 2.10. Except as otherwise provided in this Resolution, the principal of and the interest on all Bonds issued under the provisions of this Resolution shall be payable solely from the Debt Service Fund, and all of the covenants, agreements and provisions of this Resolution shall be for the benefit and security of all and singular the present and future holders of the Bonds issued and to be issued under this Resolution, without preference, priority or distinction as to lien or otherwise, except as otherwise hereinafter provided, of any one Bond over any other Bond by reason of priority in the issue, sale or negotiation thereof or otherwise.

Section 2.2 <u>Details of Bonds</u>. The definitive Bonds issued under the provisions of Section 2.10 shall be as permitted or required by the respective Series Resolution providing for the issuance of Bonds of any Series. All such Bonds may have endorsed thereon such legends or text as may be necessary or appropriate to conform to any applicable rules and regulations of any governmental authority or any usage or requirement of law with respect thereto.

The Bonds authorized hereunder may be issued in one or more Series that may be delivered from time to time. The University shall by Series Resolution authorize such Series and shall specify the following: the authorized principal amount of such Series; the purpose for which the Bonds are being issued; the date and terms of maturity or maturities of the Bonds of such Series, or the payment of the Bonds on the demand of the holder; the interest payment dates and the interest rate or rates on the Bonds of such Series, which may include variable, adjustable, convertible or other rates, original issue discounts and zero interest rate bonds, provided that the average net interest cost rate on such Series shall never exceed for such Series the maximum interest rate permitted by law in effect at the time such Series are issued; the denominations, numbering, lettering and series designation of such Series of Bonds; the place or places of payment of such Bonds; the redemption prices for such Series of Bonds and any terms of redemption not inconsistent with the provisions of this Resolution which may include mandatory redemption at the election of the holder or registered owner thereof; the amount and date of each mandatory redemption requirement, if any, for such Series of Bonds; the use of proceeds of such Series of Bonds, including deposits required to be made into the Construction Fund and Reserve

Fund, if any; any additional revenues of the University besides the Net Revenues of the System pledged to secure such Series of Bonds; and any other terms or provisions applicable to the Series of Bonds, not inconsistent with the provisions of this Resolution or the Act. All of the foregoing may be added by Series Resolutions adopted at any time and from time to time prior to the issuance of such Series of Bonds.

All Bonds shall be in registered form, shall be payable in lawful money of the United States of America and shall bear interest from the date specified in the Series Resolution which shall be payable by mail or wire, as provided in the Series Resolution, to the registered owner thereof. In addition, if and to the extent permitted by applicable law, the University may issue any or all Series of Bonds as certificated registered public obligations (represented by instruments) or as uncertificated registered public obligations (not represented by instruments) commonly known as book-entry obligations, combinations thereof, or such other obligations as may then be permitted by law. The University shall establish a system of registration and shall appoint such registrars, transfer agents, depositaries or other agents as may be necessary to cause the registration, registration of transfer and reissuance of the Bonds within a commercially reasonable time according to the then current industry standards and to cause the timely payment of interest, principal and premium payable with respect to the Bonds. Any such system may be effective for any Series then outstanding or to be subsequently issued, provided that if the University adopts a system for the issuance of uncertificated registered public obligations, it may permit thereunder the conversion, at the option of a holder of any Bond then outstanding, of a certificated registered public obligation to an uncertificated registered public obligation, and the reconversion of the same.

The form of Bonds may provide that the holder of any such Bond may demand payment of principal and interest from the University within a stated period after delivering notice to a designated agent for the University and providing a copy of the notice with the tender of the Bond to such agent. The designated agent for the University, in accordance with the terms of a remarketing or replacement agreement, may provide for the resale or redelivery of the Bonds on behalf of the University at a price provided for in the agreement in lieu of payment by the University on demand. If the Bonds shall not be resold or redelivered within a stated period, the agent for the University may be authorized to draw upon a previously executed Credit Facility Agreement between the University and one or more banks or other financial or lending institutions permitting the University to borrow interest and principal for payment upon a particular Series of Bonds to which such Credit Facility Agreement shall pertain. The particular form or forms of such demand provisions, the period or periods for payment of principal and interest after delivery of notice, the appointment of the agent for the University, the terms and provisions of the remarketing or replacement agreement, and the terms and provisions of the Credit Facility Agreement shall be as designated by a Series Resolution of the University pertaining to each Series of Bonds to which such terms and provisions are applicable, prior to the sale thereof.

The principal of, premium, if any, and the interest on the Bonds shall be payable in any coin or currency of the United States of America which on the respective dates of payment thereof is legal tender for the payment of public and private debts. The principal of the Bonds of each Series shall be payable at the Designated Office or Offices of the Paying Agent, designated

in the resolution of the Board awarding the Bonds of such Series, or at the office of the State Treasurer, in the City of Richmond, Virginia or both, as provided in the Series Resolutions. Interest on the Bonds to the respective maturities thereof shall be paid by check or draft mailed, or wire transfer made, by the Paying Agent to the registered owners thereof on the appropriate record date, as set forth in the Series Resolution.

Section 2.3 Form of Bonds. The Bonds issued hereunder shall be in the form set forth in the respective Series Resolution.

Section 2.4 Execution of Bonds. The Bonds shall be executed in the name and on behalf of the University by its President and its Chief Financial Officer or its Treasurer, and the official seal of the University shall be imprinted, reproduced or lithographed on the Bonds. The signatures on the Bonds may be by facsimile, but one such officer shall sign his manual signature on the Bonds unless the Registrar shall be authorized and directed to cause one of its duly authorized signatories to manually execute the Bonds. In case any of the officers who shall have signed or attested any of the Bonds shall cease to be such officer or officers of the University before the Bonds so signed or attested shall have been authenticated or delivered by the Registrar or issued by the University, such Bonds may nevertheless be authenticated, delivered and issued and, upon such authentication, delivery and issue, shall be as binding upon the University as though those who signed and attested the same had continued to be such officers of the University. Any Bond may be signed and attested on behalf of the University by such persons as at the actual date of execution of such Bond shall be the proper officers of the University although at the nominal date of such Bond any such person shall not have been such officer of the University.

Only such of the Bonds as shall bear thereon a certificate of authentication, manually executed by the Registrar, shall be valid or obligatory for any purpose or entitled to the benefits of this Resolution, and such certificate of the Registrar shall be conclusive evidence that the Bonds so authenticated have been duly executed, authenticated and delivered hereunder and are entitled to the benefits of this Resolution.

Section 2.5 <u>Transfer of Bonds</u>. Any Bond may, in accordance with its terms, be transferred, upon the books required to be kept pursuant to the provisions of Section 2.7 by the person in whose name it is registered, in person or by his duly authorized attorney, upon surrender of such Bond for cancellation, accompanied by delivery of a written instrument of transfer, duly executed in a form approved by the Registrar.

Whenever any Bond or Bonds shall be surrendered for registration of transfer, the University shall execute and the Registrar shall authenticate and deliver a new Bond or Bonds, of authorized denominations of the same Series, maturity, interest rate and for a like aggregate principal amount. Such transfer shall be without charge to the holder, except that the Registrar shall require the Bondholder requesting such transfer to pay any tax or other governmental charge required to be paid with respect to such transfer.

Section 2.6 Exchange of Bonds. Bonds may be exchanged at the designated office of the Registrar for a like aggregate principal amount of Bonds of other authorized denominations

of the same Series, maturity and interest rate. Such exchange shall be without charge to the holder, except that the Registrar shall require the Bondholder requesting such exchange to pay any tax or other governmental charge required to be paid with respect to such exchange.

Section 2.7 <u>Bond Register; Notices</u>. The Registrar will keep or cause to be kept, at its designated office sufficient books for the registration and transfer of the Bonds, which shall at all times during regular business hours be open to inspection by the University and the Paying Agent; and, upon presentation for such purpose, the Registrar shall, under such reasonable regulations as it may prescribe, register or cause to be registered, on such books, the transfer or exchange of Bonds as hereinbefore provided. No registration of transfer of a Bond shall be required to be made from a record date to the next succeeding interest payment date or if a Bond shall have been selected or called for redemption. No exchange of a Bond shall be required to be made from a record date to the next succeeding interest payment date or if a Bond shall have been selected or called for redemption. Notices sent to Bondholders pursuant to this Resolution shall be sent to the addresses shown on the registration books maintained by the Registrar or such other address as may be filed with the Registrar for such purpose. All notices required to be given by mail shall be given by first class mail, postage prepaid.

In addition to the other obligations imposed on the Registrar hereunder, the Registrar shall agree to deliver upon request a list of the names and addresses of the registered owners of the Bonds, as follows:

- (a) to any Bondholder, if an Event of Default shall have occurred and be continuing;
- (b) to the Paying Agent, the University or the provider of a Reserve Fund Credit Facility Agreement or Credit Facility Agreement, at any time; and
- (c) to the registered holders of 25% or more in aggregate principal amount of Bonds then outstanding, at any time.

Section 2.8 <u>Temporary Bonds.</u> The Bonds may be issued in temporary form exchangeable for definitive Bonds when ready for delivery. Any temporary Bond may be printed, lithographed or typewritten, shall be of such denomination as may be determined by the University and may contain such reference to any of the provisions of this Resolution as may be appropriate. A temporary Bond may be in the form of a single Bond payable in installments, each on the date, in the amount and at the rate of interest established for the Bonds maturing on such date. Every temporary Bond shall be executed by the University and be authenticated by the Registrar upon the same conditions and in substantially the same manner as the definitive Bonds. If the University issues temporary Bonds it will execute and deliver definitive Bonds as promptly thereafter as practicable, and thereupon the temporary Bonds may be surrendered, for cancellation, in exchange therefor at the designated office of the Registrar and the Registrar shall authenticate and deliver in exchange for such temporary Bonds an equal aggregate principal amount of definitive Bonds of authorized denominations of the same maturity or maturities and interest rate. Until so exchanged, the temporary Bonds shall be entitled to the same benefits under this Resolution as definitive Bonds authenticated and delivered hereunder.

Section 2.9 Bonds Mutilated, Lost, Destroyed or Stolen. If any Bond shall become mutilated, the University, at the expense of the owner of said Bond, shall execute, and the Registrar shall thereupon authenticate and deliver, a new Bond of like tenor bearing a different number in exchange and substitution for the Bond so mutilated, but only upon surrender to the Registrar of the Bond so mutilated. Every mutilated Bond so surrendered to the Registrar shall be canceled by it and delivered to, or upon the order of, the University. If any Bond shall be lost, destroyed or stolen, evidence of the ownership thereof and of such loss, destruction or theft may be submitted to the University and the Registrar and, if such evidence be satisfactory to both of them and indemnity satisfactory to them shall be given, the University, at the expense of the owner, shall execute, and the Registrar shall thereupon authenticate and deliver, a new Bond of like tenor bearing a different number in lieu of and in substitution for the Bond so lost, destroyed or stolen (or if any such Bond shall have matured or shall be about to mature, instead of issuing a substitute Bond, the University may pay the same without surrender thereof). The University may require payment of a sum not exceeding the actual cost of preparing each new Bond issued under this Section and of the related expenses which may be incurred by the University, the Registrar and the Paying Agent. Any Bond issued under the provisions of this Section in lieu of any Bond alleged to be lost, destroyed or stolen shall constitute an original additional contractual obligation on the part of the University whether or not the Bond so alleged to be lost, destroyed or stolen be at any time enforceable by anyone, and shall be entitled to the benefits of this Resolution with all other Bonds secured by this Resolution.

Section 2.10 <u>Terms and Conditions for Issuance of Bonds</u>. Bonds of the University may be issued under and secured by this Resolution, subject to the conditions hereinafter provided in this Section, from time to time for the purpose of providing funds for paying all or any part of the Cost of the System, including any Additional Facilities, or for the purpose of refunding any Bonds, or other obligations of the University or portions thereof issued to finance University services facilities, then outstanding.

Before any Bonds shall be issued under the provisions of this Section, the Board shall adopt a Series Resolution authorizing the issuance of such Bonds. The Bonds of each Series issued under the provisions of this Section shall be designated "University Services System Revenue Bonds, Series ____" (with appropriate modifications designated by the University to reflect additional pledged revenues, credit enhancement, variable interest rates or the like), shall be numbered, shall be dated, shall bear interest at a rate or rates not exceeding the maximum rate then permitted by law, shall be stated to mature on the date or dates specified therein, and shall be made redeemable at such times and prices (subject to the provisions of Article III of this Resolution), all as may be provided by the Series Resolution authorizing the issuance of such Bonds. Except as to any differences in the maturities thereof or in the rate or rates of interest or the provisions for redemption or the provisions regarding the Reserve Fund or the pledge of additional revenues of the University besides the Net Revenues of the System, all such Bonds shall be on a parity with and shall be entitled to the same benefit and security of this Resolution. Such Bonds shall be executed in the form and manner hereinabove set forth and shall be deposited with the Registrar for delivery, but before Bonds shall be delivered by the Registrar, there shall be filed with the Registrar the following:

- (a) a copy, certified by the Secretary of the Board, of the Series Resolution mentioned above;
- (b) a copy, certified by the Secretary of the Board, of the resolution adopted by the Board awarding such Bonds, specifying the interest rate (or method or parameters for computing such interest rate) for each of such Bonds and the deposit, if any, to the Reserve Fund to secure such Bonds, and directing the delivery of such Bonds to or upon the order of the purchasers named therein upon payment of the specified purchase price;
- (c) if the Bonds are being issued to pay the Cost of a Project, a statement, signed by an Authorized Officer, certifying that (i) the Project described in the Series Resolution authorizing the issuance of such Bonds will, in his or her opinion, preserve, develop, extend or improve the System, and (ii) taking into account the issuance of such Bonds the University expects to have sufficient Net Revenues of the System and other available funds to meet its obligations to pay principal and interest and other amounts, as and when due and payable in accordance with their terms, on all Bonds issued under this Resolution and all Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such Bonds and (B) the completion of all Projects financed with the proceeds of such Bonds, and (iii) such Authorized Officer has no reason to believe that Net Revenues of the System and other available funds will not be sufficient to pay all amounts, as and when due and payable in accordance with their terms, on all Bonds issued under this Resolution and all Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations during the term of such Bonds;
- (d) a certificate, signed by an Authorized Officer, stating that to the best of his or her knowledge the University is not then in default in the performance and observance of any of the covenants, conditions, agreements or provisions contained in this Resolution; and
- (e) an opinion of Bond Counsel stating that the Bonds have been duly authorized, executed and delivered in accordance with the Act and this Resolution and constitute valid and binding limited obligations of the University, payable solely from the Net Revenues of the System and other property and revenues pledged therefor under this Resolution or the Series Resolution.

When the documents mentioned above in this Section shall have been filed with the Registrar and when the Bonds described in the resolutions mentioned in clauses (a) and (b) of this Section shall have been executed as required by this Resolution, the Registrar shall deliver such Bonds to or upon the order of the purchasers named in the resolution mentioned in clause (b), but only upon payment to the Custodian of the purchase price of such Bonds. The Registrar shall be entitled to rely upon such resolution as to the names of the purchasers, the interest rate of each of such Bonds and the amount of such purchase price.

The provisions of clause (c) above of this Section 2.10 shall not apply to the first Series of Bonds issued hereunder.

The proceeds (excluding accrued interest) of such Bonds shall be deposited to the credit of the Construction Fund and applied to the payment of the Cost of such Project, except if the Bonds or a portion thereof are being issued to reimburse the University for Costs of the Project previously incurred by the University or to refund Bonds or other University obligations then outstanding, in which case such portion of the proceeds shall be paid to or on account of the University. If such Bonds are to be secured by the Reserve Fund, prior to such deposit to the Construction Fund or payment to or for the account of the University, the Custodian shall deduct from such proceeds and deposit to the credit of the Reserve Fund the amount, if any, to be so deposited as set forth in the Series Resolution for such Bonds.

If Bonds are issued for the purpose of refunding any or all of the Bonds or other University obligations then outstanding, the requirements set forth in clause (c)(i) above of this Section 2.10 shall not apply.

The amount received as accrued interest on such Bonds shall be deposited to the credit of the Debt Service Fund.

- Section 2.11 <u>Additional Indebtedness</u>. The University may incur or issue other Credit Obligations payable from or secured by Net Revenues of the System only if the conditions set forth below in subsection (a), (b), (c) or (d) are met in each instance:
 - (a) <u>Section 9(c) Credit Obligations</u>. Notwithstanding any provision of this Resolution, any Credit Obligation issued by or on behalf of the University pursuant to Article X, Section 9(c) of the Constitution of Virginia, as such section may be amended from time to time, that is secured by a pledge of all or any portion of the Net Revenues shall without further action (including any action required pursuant to Section 2.10 or Section 2.11(b)) automatically be deemed to be Parity Indebtedness secured on a parity basis with all Bonds issued pursuant to this Resolution, unless expressly subordinated to the pledge of Net Revenues herein.
 - (b) <u>Limitation on Other Parity Indebtedness</u>. The University may incur, assume, guarantee or otherwise become liable on any other Parity Indebtedness, including any Credit Obligation incurred pursuant to the provisions of Article X, Section 9(d) of the Constitution of Virginia, as such section may be amended from time to time, but only if, prior to the incurrence of such Parity Indebtedness, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Parity Indebtedness (i) the University expects to have sufficient Net Revenues of the System and other available funds to meet its obligations to pay principal and interest and other amounts, as and when due and payable in accordance with their terms, on all Credit Obligations and Parity Swap Obligations secured by a pledge of such Net Revenues for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such Parity Indebtedness and (B) the completion of any facility financed with the proceeds of such Parity Indebtedness, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable in accordance with their terms, under all

indebtedness and Interest Rate Agreements of the University secured by a pledge of such Net Revenues during the term of such proposed Parity Indebtedness, and (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of this Resolution. Any such Parity Indebtedness shall be designated by the University as Parity Indebtedness and shall be secured by a pledge of Net Revenues of the System on a parity with the pledge of Net Revenues of the System herein, unless expressly subordinated to the pledge hereof.

- (c) <u>Limitation on Issuance of Parity Indebtedness</u>. Except for Credit Obligations issued or incurred pursuant to subsections (a) or (b) above or to refund any Parity Indebtedness and other Bonds issued pursuant to Section 2.10, no additional bonds or other obligations may be issued or incurred by the University on a parity with any Bonds as to payment from Net Revenues of the System.
- (d) <u>Subordinate Obligations</u>. The University may issue Subordinate Obligations without restriction so long as they are payable from and secured by a pledge of the Net Revenues of the System junior and subordinate in all respects to the liens, pledges, covenants and agreements of this Resolution relating to the Net Revenues of the System for the benefit of holders of the Bonds.
- Section 2.12 Parity Interest Rate Agreements. The University may enter into Parity Interest Rate Agreements pursuant to which regularly scheduled payments thereon are on a parity with the holders of Bonds issued hereunder as to the right to payment from Revenues. Termination payments or any other payments, except regularly scheduled payments, on any Interest Rate Agreement, whether or not a Parity Interest Rate Agreement, must be subordinate to the holders of Bonds issued hereunder as to right of payment from Revenues.

ARTICLE III

REDEMPTION

Section 3.1 Redemption of Bonds. The Bonds of any Series issued under the provisions of this Resolution shall be made subject to redemption, both in whole and in part and at such times and prices, as may be provided in the Series Resolution authorizing the issuance of such Bonds.

If less than all of the Bonds of any one maturity of a Series shall be called for redemption, the particular Bonds to be redeemed from such Series shall be selected in such manner as shall be provided in the Series Resolution.

- **Section 3.2** <u>Redemption Notice</u>. Notice of redemption shall be given as set forth in the Series Resolution for each Series of Bonds.
- Section 3.3 <u>Effect of Calling for Redemption</u>. On the date so designated for redemption, notice having been published or mailed in the manner and under the conditions hereinabove provided and moneys for payment of the redemption price being held in separate accounts by the Paying Agent in trust for the holders of the Bonds to be redeemed, all as

provided in this Resolution, the Bonds so called for redemption shall become and be due and payable at the redemption price provided for redemption of such Bonds on such date, interest on the Bonds so called for redemption shall cease to accrue, such Bonds shall cease to be entitled to any benefit or security under this Resolution and the holders or registered owners of such Bonds shall have no rights with respect thereto except to receive payment of the redemption price. Bonds so redeemed shall be canceled upon surrender.

Section 3.4 <u>Bonds Redeemed Not Deemed Outstanding</u>. Bonds which have been duly called for redemption under the provisions of this Article, or with respect to which irrevocable instructions to call for redemption have been given by or on behalf of the University and for the payment of the redemption price of which moneys shall be held in separate accounts by the Paying Agent in trust for the holders of the Bonds to be redeemed, all as provided in this Resolution, shall not thereafter be deemed to be outstanding under the provisions of this Resolution.

ARTICLE IV

CUSTODY AND APPLICATION OF PROCEEDS OF BONDS

- Section 4.1 Construction Fund. The University shall create or cause to be created a fund designated "The Virginia Polytechnic Institute and State University University Services System Construction Fund" (the "Construction Fund") to be administered by the University, to the credit of which there shall be deposited the proceeds of all Bonds required to be so deposited by the Series Resolution authorizing such Bonds. There may also be deposited to the credit of the Construction Fund any moneys received from any other source for paying the Cost of the Project described in such Series Resolution if the University shall have received an opinion of Bond Counsel that such deposit will not cause the interest on the Bonds to be includable in gross income for federal income tax purposes. The moneys in the Construction Fund shall be held in trust and applied to the payment of the Cost of such Project and, pending such application, shall be subject to a lien and charge in favor of the holders of the Bonds issued and outstanding under this Resolution and for the future security of such holders until paid out or transferred as herein provided. Separate accounts may be created in the Construction Fund to hold moneys allocable to different Projects, as may be required by the Series Resolutions.
- **Section 4.2** <u>Items of Cost of Project</u>. For the purposes of this Resolution, the Cost of each Project shall include, without intending thereby to limit or restrict or to extend any proper definition of such Cost under any applicable laws or this Resolution, any or all of the following:
 - (a) obligations incurred for labor and materials and to contractors, builders and materialmen in connection with the Project;
 - (b) the cost of acquiring by purchase, if such purchase shall be deemed expedient, and the amount of any award or final judgment in or any settlement or compromise of any proceeding to acquire by condemnation, such lands, property, rights, rights of way, franchises, easements and other interests as may be deemed necessary or convenient by the Board for the construction and operation of the Project, options and

partial payments thereon, and the amount of any damages incident to or consequent upon such construction and operation;

- (c) the cost of furnishing and equipping the Project;
- (d) interest on the applicable series of Bonds prior to and during construction of the Project and for one year thereafter;
- (e) taxes or other municipal or governmental charges lawfully levied or assessed during construction of the Project or any property acquired therefor, and premiums on insurance, if any, in connection with the Project during construction; fees and expenses of engineers and architects for surveys and estimates and other preliminary investigations, preparation of plans, drawings and specifications and supervising construction, as well as for the performance of all other duties of engineers and architects in relation to the construction of the Project or the issuance of Bonds therefor;
- (f) expenses of administration properly chargeable to the Project, legal expenses and fees, fees and expenses of consultants, financing charges (including Reserve Fund Credit Facility Agreement and Credit Facility Agreement fees), cost of audits and of preparing and issuing the Bonds, and all other items of expense not elsewhere in this Section specified incident to the construction and equipping of the Project and the placing of the Project in operation; and
- (g) any obligation, including interim financing, or expenses heretofore or hereafter incurred by the University or by any other agency of the Commonwealth in connection with the Project for any of the foregoing purposes.
- Section 4.3 <u>Capitalized and Accrued Interest</u>. The University may set aside from the proceeds of any Bonds issued under this Resolution and deposit to the credit of a separate interest account in the Construction Fund the amount of capitalized interest set forth in a certificate executed by an Authorized Officer of the University and included as a part of the original transcript relating to the issuance of such Bonds. The University may apply the money in such interest account to the payment of interest on such Bonds at such times and in such amounts as set forth in such certificate.
- Section 4.4 Payments from Construction Fund. Payment of the Cost of each Project shall be made from the Construction Fund and other available funds, all as provided by law. All payments from the Construction Fund shall be subject to the provisions and restrictions set forth in this Article, and the Board covenants that it will not cause or permit to be paid from the Construction Fund any sums except in accordance with such provisions and restrictions.

Moneys in the Construction Fund shall be paid out based on invoices received by the University, the amounts stated in such invoices to be necessary for paying items of Cost of each Project.

The University shall maintain written records of withdrawals from the Construction Fund which shall reflect each amount to be paid, the name of the person, firm or corporation to whom each such payment is due and the purpose for which the obligation to be paid was incurred, that the goods or services specified have been received or performed, that payment therefor has not been previously authorized and that the expenditure is a proper charge to the Construction Fund.

Section 4.5 <u>Lands for Project</u>. The Board covenants that no part of the System has been or will be constructed on lands other than lands to which good and marketable title is owned or can be acquired by the University or the Commonwealth in fee simple unless the University has a perpetual easement over the lands to be used or has acquired a lesser right or interest in such lands which an Authorized Officer has certified will be sufficient for the University's purposes. The University further covenants that any such land will be free from all liens, encumbrances and defects of title except liens, encumbrances or defects of title which do not have a materially adverse effect upon the University's or the Commonwealth's right to use such lands or properties for the purposes intended or which have been adequately guarded by a bond or other form of indemnity.

Section 4.6 <u>Disposition of Balance in Construction Fund</u>. When each Project shall have been completed and placed in operation or abandoned, as evidenced by a certificate signed by an Authorized Officer and filed with the Secretary of the Board and accompanied by an opinion of the Attorney General or a special Assistant Attorney General of the Commonwealth that there are no unsatisfied mechanics', laborers', contractors' or materialmen's liens against the Project or on file in any public office where the same should be filed in order to be valid liens against the Project, and that, in the opinion of the signer, the time within which such liens can be filed has expired, any balance in the Construction Fund not deemed by the Board to be necessary to be reserved for the payment of any remaining part of the Cost of the Project shall be transferred to the credit of the Debt Service Fund and shall be invested at a yield not to exceed the lower of (l) the yield on the Bonds from which such moneys were derived or (2) the blended yield on the Bonds, until such moneys are used to purchase or redeem the Bonds on the earliest date on which an optional redemption may be permitted.

ARTICLE V

REVENUES AND FUNDS

- Section 5.1 <u>Covenants as to Fees and Revenues</u>. The Board covenants that it will impose and collect fees, rents and charges for or in connection with the use, occupation or services of the System and that, from time to time and as often as it shall appear necessary, it will revise such fees, rents and charges as may be necessary or proper so that the moneys deposited or transferred to the credit of the Revenue Fund in each Fiscal Year from any available funds, including without limitation any transfers thereto from the Surplus Fund, will be a sum at least equal to the total of the following:
 - (a) the Current Expenses (excluding any Current Expenses attributable to any facilities that would become Excluded Facilities as a result of any such exclusion of

Revenues) of the System for the current Fiscal Year as shown by the Annual Budget for such Fiscal Year;

- (b) 100% of the Principal and Interest Requirements for the current Fiscal Year, on account of the Bonds of each Series then outstanding;
- (c) 100% of the amounts required to be deposited into the Reserve Fund during the current Fiscal Year, as set forth in Section 5.9 and in the Series Resolutions; and
- (d) 100% of the debt service or other payment requirements for the current Fiscal Year on account of any Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations then outstanding.
- **Section 5.2** <u>Use of System</u>. Although the System currently consists of university services facilities, the University may in its discretion use all or any portion of the System for any purpose permitted by law.
- Section 5.3 Revenue Fund. The University shall create or cause to be created a fund designated "Virginia Polytechnic Institute and State University University Services System Revenue Fund" (the "Revenue Fund") to be held and administered by the University. The University covenants that all Revenues derived from the operation or ownership of the System will be credited to the Revenue Fund. All moneys in the Revenue Fund shall be held for the benefit of the holders of the Bonds and the outstanding Parity Indebtedness and Parity Swap Obligations and applied as hereinafter provided in this Article.
- **Section 5.4** <u>Surplus Fund</u>. The University shall create or cause to be created a fund designated "Virginia Polytechnic Institute and State University University Services System Surplus Fund" (the "Surplus Fund") to be held and administered by the University. All moneys in the Surplus Fund shall be applied as hereinafter provided in this Article.
- **Section 5.5** Annual Budget. The Board covenants that on or before the first day of each Fiscal Year it will prepare and adopt a budget of Current Expenses for the System for such Fiscal Year (herein sometimes called the "Annual Budget").

If for any reason the Board shall not have adopted the Annual Budget before the first day of any Fiscal Year, the budget for the preceding Fiscal Year, shall, until the adoption of the Annual Budget, be deemed to be in force and shall be treated as the Annual Budget under the provisions of this Article.

The Board may at any time adopt an amended or supplemental Annual Budget for the remainder of the then current Fiscal Year, and when so adopted the Annual Budget so amended or supplemented shall be treated as the Annual Budget under the provisions of this Article.

Section 5.6 Payments from Revenue Fund. Current Expenses of the System shall be paid from the Revenue Fund as the same shall become due and payable.

Following the end of each quarter of each Fiscal Year, the University may withdraw from the Revenue Fund and transfer to the Surplus Fund an amount up to the amount of all moneys held for the credit of the Revenue Fund on the last day of such quarter (a) less an amount to be held as a reserve for Current Expenses of the System not to exceed the amount shown by the Annual Budget to be necessary for Current Expenses of the System for the next three months, (b) less an amount equal to the amount of interest to become due and payable within the next ensuing three months with respect to the Bonds of each Series then outstanding (or a pro-rata quarterly deposit in the case of Bonds with respect to which interest is paid on an other than a quarterly basis), except any interest to be paid from the separate interest account in the Construction Fund under the provisions of Section 4.3 or interest deposited into the Debt Service Fund from the proceeds derived from the sale of any Bonds, as set forth in the last paragraph of Section 2.10, and 1/4 of the amount of principal of the Bonds of each Series then or to become due and payable (whether at maturity or upon mandatory sinking fund redemption or otherwise) within the next ensuing 12 months, (c) less all amounts previously retained in the Revenue Fund in past quarters for principal and interest payments on the Bonds and not yet transferred to the Debt Service Fund, (d) less such amounts at such times as are required to pay debt service and other amounts due on Parity Indebtedness and Parity Swap Obligations, and (e) less such amount, if any, as may be required to be deposited in the Reserve Fund pursuant to Section 5.9 or the Series Resolutions.

Section 5.7 <u>Debt Service Fund</u>. A fund shall be created by the Paying Agent designated "Virginia Polytechnic Institute and State University University Services System Debt Service Fund" (the "Debt Service Fund") to be held in trust for the benefit of the holders of the Bonds. On or before the day preceding each date on which payments of interest or principal shall be due and payable on the Bonds (a "Payment Date"), the University shall transfer to the Paying Agent from either the Revenue Fund or Surplus Fund an amount of money sufficient to cause the amount held in the Debt Service Fund to be equal to the interest, premium and principal due on the Bonds on such Payment Date. The Paying Agent shall cause payment of the amounts due on the Bonds on each such Payment Date.

Section 5.8 Payments to Bondholders. The Paying Agent shall, at appropriate times on or before each Payment Date, withdraw from the Debt Service Fund the amounts needed on such date to pay the principal, premium and interest on the Bonds and shall pay or cause the same to be paid to the Bondholders as such principal, premium and interest become due and payable.

Section 5.9 Reserve Fund/Application of Moneys in Reserve Fund. A fund shall be created by the Paying Agent designated "Virginia Polytechnic Institute and State University University Services System Reserve Fund" (the "Reserve Fund") to be held in trust for the benefit of the holders of those Series of Bond secured thereby. Not every Series of Bonds need be secured by the Reserve Fund. Only those Series of Bonds issued under Series Resolutions which provide some mechanism for funding an amount not to exceed the Reserve Fund Requirement or obtaining a Reserve Fund Credit Facility Agreement will be secured by the Reserve Fund. The Paying Agent shall establish separate accounts in the Reserve Fund for each Series of Bonds so secured. The Bondholders of such Series of Bonds will have an interest only in the account created for such Series. At what time and in what manner the account for a Series is funded or at

what time and in what manner a Reserve Fund Credit Facility Agreement will be required or will be drawn upon shall be governed by the Series Resolutions.

Moneys held for the credit of the Reserve Fund shall be used for the purpose of paying the interest on and the principal of those Series of Bonds secured by the Reserve Fund whenever and to the extent that the moneys held for the credit of the Debt Service Fund with respect to such Series of Bonds shall be insufficient for such purpose. If the moneys in the Debt Service Fund are insufficient for such purpose with respect to a Series of Bonds secured by the Reserve Fund and if a Reserve Fund Credit Facility Agreement exists, the Paying Agent shall take such actions as may be required to draw upon such Reserve Fund Credit Facility Agreement and to deposit the proceeds into the appropriate account in the Reserve Fund.

Section 5.10 Application of Moneys in the Surplus Fund. Moneys held for the credit of the Surplus Fund may be used for any lawful purpose directly benefiting the University as may from time to time be determined by the University.

Section 5.11 Application of Moneys in Debt Service Fund and Reserve Fund. Subject to the terms and conditions set forth in this Resolution, moneys held for the credit of the Debt Service Fund and the Reserve Fund shall be disbursed by the Paying Agent for (a) the payment of interest on the Bonds issued hereunder as such interest becomes due and payable, or (b) the payment of the principal of such Bonds at their maturities and upon redemption and such moneys are hereby pledged to and charged with the payments mentioned in this Section. Any moneys which shall be deposited by the University in the Debt Service Fund with the Paying Agent for the purpose of paying any of the Bonds hereby secured, either at the maturity thereof or upon call for redemption, and which shall remain unclaimed by the holders of such Bonds for the period of five years after the date on which such Bonds shall have become due and payable shall be disposed of by the Paying Agent in accordance with The Uniform Disposition of Unclaimed Property Act, Chapter 11.1, Title 55, Code of Virginia of 1950, as amended (the "Unclaimed Property Act"). The Paying Agent shall be entitled to act in good faith in reliance on written direction from the University or its counsel in complying with the Unclaimed Property Act, absent the Paying Agent's negligence or willful misconduct.

Whenever the total of the moneys held for the credit of the Debt Service Fund and the Reserve Fund shall be sufficient for paying the principal of and the redemption premium, if any, and the interest accrued on all Bonds then outstanding under the provisions of this Resolution, such moneys may be applied by the Paying Agent, at the direction of the University, to the redemption of such Bonds.

Service Fund and the Reserve Fund shall be held in trust and applied as herein provided with respect to each such fund and, pending such application, shall be subject to a lien and charge in favor of the holders of the Bonds issued and outstanding under this Resolution and the respective Series Resolutions and for the further security of such holders until paid out or transferred as herein provided; it being understood that the Reserve Fund secures only those Series of Bonds specifically secured by the Reserve Fund, that the holders of the Parity Indebtedness and Parity Swap Obligations shall have a lien on and pledge of the Net Revenues for the payment of debt

service and other amounts due on the Parity Indebtedness and Parity Swap Obligations on a parity with the Bondholders and that the holders of the Subordinate Obligations have a lien on and pledge of the Net Revenues subordinate and junior to the Bondholders.

Section 5.13 <u>Cancellation of Bonds Upon Payment</u>. All Bonds paid, redeemed or purchased by the University, either at or before maturity shall be canceled upon the payment, redemption or purchase of such Bonds and shall be delivered to the University when such payment, redemption or purchase is made. All Bonds canceled under any of the provisions of this Resolution may be cremated or otherwise destroyed by the University or its designee.

ARTICLE VI

INVESTMENT OF FUNDS

Section 6.1 <u>Moneys Held by University or Deposited with the Paying Agent</u>. All moneys received by the University or deposited with the Paying Agent under the provisions of this Resolution shall be held and applied only in accordance with the provisions of the Act and this Resolution and shall not be subject to liens of or attachment by any creditor of the University.

Section 6.2 <u>Investment of Moneys</u>. Moneys held for the credit of the various funds and accounts hereunder shall be invested by the University for such periods not to extend beyond the date such funds will be needed in any investments which are permitted for the investment of public funds under the laws of the Commonwealth.

Obligations so purchased as an investment of moneys in any such fund or account, and any interest bearing time deposits made with respect to such moneys, shall be deemed at all times to be a part of such fund or account, and the interest received thereon and any profit realized from such investment shall be credited to such fund or account, and any loss resulting from such investment shall be charged to such fund or account; provided, however, that the interest received on the investment of moneys in the Debt Service Fund and the Reserve Fund and any profit realized from such investment shall be credited to the Revenue Fund and any loss resulting from such investment shall be charged to the Revenue Fund. The Paying Agent shall sell at the best price obtainable or present for redemption any obligations so purchased whenever it shall be necessary so to do in order to provide moneys to meet any payment or transfer from any such fund or account. Neither the Paying Agent nor the University shall be liable or responsible for any loss resulting from any such investment.

The Debt Service Fund may only be invested in investments permitted for the investment of public sinking funds.

For the purpose of determining the amount on deposit to the credit of any such fund or account, obligations in which moneys in such fund or account have been invested shall be computed at market value.

ARTICLE VII

PARTICULAR COVENANTS

Section 7.1 Payment of Principal and Interest; Pledge of Revenues; Exclusions from and Additions to Revenues. The University covenants that it will promptly pay from the sources described herein the principal of and the interest on every Bond issued under the provisions of this Resolution at the place or places, on the dates and in the manner provided herein and in said Bonds, and any premium required for the retirement of said Bonds by purchase or redemption, according to the true intent and meaning thereof. Except as otherwise provided in this Resolution or any Series Resolution, such principal, interest and premium are payable solely from Revenues, which Revenues and other moneys to the extent provided in the Resolution are hereby pledged to the payment thereof in the manner and to the extent hereinabove particularly specified.

Notwithstanding any other provision of this Resolution, the University may at any time exclude any Revenues from the Revenues pledged hereunder if, prior to the exclusion of such Revenues, an Authorized Officer of the University certifies in writing (1) that after the exclusion of the Revenues designated in such certificate, the University will not be in default of any of its covenants under this Resolution or any Series Resolution, including without limitation the covenants relating to fees, rents, charges and revenues contained in Section 5.1 and (2) that Revenues received or to be received in the then current Fiscal Year, after taking into account such exclusion, will in the opinion of such Authorized Officer at least equal the sum of the amounts set forth in clauses (a), (b), (c) and (d) of Section 5.1. In addition, the University may at any time add to the definition of Revenues hereunder any revenues that are not then subject to the lien hereof by filing with the Paying Agent a written notice of such addition and a description of the revenues to be added.

THE UNIVERSITY SHALL NOT BE OBLIGATED TO PAY THE PRINCIPAL OF OR INTEREST ON THE BONDS EXCEPT FROM THE SOURCES NOTED HEREIN OR IN ANY SERIES RESOLUTION PLEDGED THEREFOR. THE BONDS AND THE INTEREST THEREON SHALL NOT BE DEEMED TO CONSTITUTE A DEBT OR LIABILITY OF THE COMMONWEALTH, LEGAL, MORAL OR OTHERWISE. **NEITHER** COMMONWEALTH NOR THE UNIVERSITY SHALL BE OBLIGATED TO PAY THE PRINCIPAL OF OR INTEREST ON THE BONDS OR OTHER COSTS INCIDENT THERETO EXCEPT FROM THE SOURCES NOTED HEREIN OR IN ANY SERIES RESOLUTION PLEDGED THEREFOR, AND NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE COMMONWEALTH NOR ANY OTHER REVENUES OR FUNDS OF THE UNIVERSITY ARE PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF OR INTEREST ON THE BONDS OR OTHER COSTS INCIDENT THERETO.

Section 7.2 <u>Construction of Projects</u>. The University covenants that, in the event that Bonds shall be issued under the provisions of Section 2.10 for the purpose of providing funds for paying all or any part of the Cost of constructing any Additional Facilities, it will forthwith proceed to construct such Additional Facilities in conformity with law and all requirements of all governmental authorities having jurisdiction, and that it will complete such construction as quickly as practicable.

- Section 7.3 <u>Architectural and Engineering Services</u>. The University covenants that it will provide and maintain competent and adequate architectural or engineering services covering the supervision and inspection of the development and construction of any Additional Facilities and will obtain all approvals and permits required by law as a condition precedent to the construction, development and operation of any such Additional Facilities.
- Section 7.4 <u>Use and Operation of System</u>. The University covenants that it will establish and enforce reasonable rules and regulations governing the use of the System and the operation thereof, that all conditions of employment and all compensation, salaries, fees and wages paid by it in connection with the maintenance, repair and operation of the System will be reasonable, that no more persons will be employed by it than are necessary, that all persons employed by it will be qualified for their respective positions and that it will at all times maintain the System in good repair and in sound operating condition and will make all necessary repairs, renewals and replacements.
- Section 7.5 Parity Liens; Payment of Lawful Charges. The University covenants that, except for existing Parity Indebtedness, Parity Swap Obligations and as provided in this Resolution, it will not create or suffer to be created any lien or charge upon the System or any part thereof or upon the revenues therefrom senior to or on a parity with the lien of the holders of the Bonds (other than the security interest created in connection with a Reserve Fund Credit Facility Agreement or a Credit Facility Agreement) and that, from such Revenues or other available funds, it will pay or cause to be discharged, or will make adequate provision to satisfy and discharge, within 60 days after the same shall accrue, all lawful claims and demands for labor, materials, supplies or other objects which, if unpaid, might by law become a lien upon the System or any part thereof or the revenues therefrom; provided, however, that nothing in this Section contained shall require the University to pay or cause to be discharged, or make provision for, any such lien or charge so long as the validity thereof shall be contested in good faith and by appropriate legal proceedings.
- Section 7.6 Acceptance of Other Funds Permitted. Notwithstanding any other provision of this Resolution, the University may accept from the United States of America, the Commonwealth or any of their agencies, departments or political subdivisions or any person, firm or corporation such moneys as may be offered for the purpose of paying all or any part of the Cost of constructing, acquiring, maintaining, repairing and operating the System and nothing herein shall be construed to prevent the University from depositing any funds available to the University for such purpose in the Debt Service Fund for the payment of the interest on or the principal of the Bonds issued under the provisions of this Resolution so long as the "federal guarantee" provisions of Section 149(b) of the Code will not be violated by such deposit.
- Section 7.7 <u>Insurance</u>. The University covenants that from and after the time when the contractors or any person engaged in constructing any Additional Facilities or any part thereof shall cease to be responsible, pursuant to the provisions of the respective contracts for the construction of Additional Facilities or such part, for loss or damage to such Additional Facilities or such part occurring from fire or lightning, it will insure or cause to be insured and at all times keep such Additional Facilities or such part insured and will now and at all times keep the System

insured with a responsible insurance company or companies, qualified to assume the risk thereof, against physical loss or damage caused by fire or lightning, with such exceptions as are ordinarily required by insurers of structures or facilities of similar type, in an amount not less than the aggregate principal amount of Bonds and Parity Indebtedness outstanding (unless provision for payment thereof shall have been made); provided, however, that such amount of insurance shall at all times be sufficient to comply with any legal or contractual requirement which, if breached, would result in assumption by the University of a portion of any loss or damage as a co-insurer, and such insurance may provide for the deduction from each claim for loss or damage (except in case of a total loss) of not more than 2% of the total amount of insurance required by the application of the co-insurance clause; and provided, further, that if at any time the University shall be unable to obtain such insurance to the extent above required, either as to amount of such insurance or as to the risks covered thereby or the deductible provision thereof, it will not constitute an event of default under the provisions of this Resolution if the University shall carry such insurance to the extent reasonably obtainable.

The proceeds of such insurance shall be available for, and shall to the extent necessary be applied to, the repair, replacement or reconstruction of the damaged or destroyed property. If such proceeds are more than sufficient for such purpose, the balance remaining shall be deposited to the credit of the Surplus Fund. If such proceeds, with other available funds, shall be insufficient for such purpose, such proceeds shall be deposited to the credit of the Debt Service Fund and used to purchase or redeem Bonds on the earliest date on which an optional redemption may be permitted, or shall be used to repair, replace or reconstruct the damaged or destroyed property, as the University by resolution may determine. If such proceeds are deposited to the Debt Service Fund to redeem the Bonds in part, the University shall perform an internal rate study for the System and, if the rate study shows that the Revenues (taking into account any loss of Revenues as a result of such damage or destruction) will be insufficient to deposit into the Revenue Fund the entire amount referred to in clauses (a), (b), (c) and (d) of Section 5.1 (taking into account the amounts on deposit in the Debt Service Fund), the University shall adjust its rates in the manner recommended by the rate study so that the Revenues will be sufficient to deposit into the Revenue Fund all of the amounts referred to in clauses (a), (b), (c) and (d) of Section 5.1.

The foregoing insurance requirements may be modified or amended if and to the extent a qualified independent insurance consultant determines that such requirements are not necessary or that the required coverage is not reasonably commercially available or if and to the extent that the laws of the Commonwealth provide for a self-insurance program and the University participates in such program.

Section 7.8 Other Insurance. To the extent not covered by Section 7.7, the University covenants that it will at all times carry or cause to be carried with a responsible insurance company or companies, qualified to assume the risks thereof, such other insurance in such amount and covering such risks with respect to the System as the University shall deem to be reasonable and desirable.

- **Section 7.9** Rights of Bondholders Not to Be Impaired. The University covenants that no contract or contracts will be entered into or any action taken with respect to the System which might impair or diminish in any material respect the rights of the Bondholders.
- **Section 7.10** <u>Further Instruments and Actions</u>. The University covenants that it will, from time to time, execute and deliver such further instruments and take such further action as may be required to carry out the purposes of this Resolution.
- **Section 7.11** Accurate Records and Accounts. The University covenants that it will keep the funds and accounts of the System separate from all other funds and accounts of the University, and that it will keep accurate records and accounts of all items of cost and of all expenditures relating to the System and of the Revenues collected and the application of such Revenues.

The University further covenants that it will cause to be filed not later than the end of the seventh month following the close of each Fiscal Year with the Secretary of the Board and the Paying Agent a certificate, signed by an Authorized Officer, stating that he or she has reviewed this Resolution and has no knowledge of any default by the University in the performance or observance of any of the provisions of this Resolution or, if he or she has such knowledge, specifying each default and the nature thereof and what actions the University is taking to cure such default.

The University further covenants that it will cause any additional reports or any audits relating to the System to be made as required by law.

The cost of the reports referred to in this Section shall be treated as a part of the cost of operation of the System.

- **Section 7.12** Recognized Accounting Principles. The University covenants that all of the accounts and records of the University will be kept according to generally accepted accounting principles, consistently applied.
- **Section 7.13** Covenant Against Sale or Encumbrances. The University covenants that, except as in this Section, Section 7.1 or in any Series Resolution otherwise permitted, it will not sell, exchange, lease or otherwise dispose of or encumber the System or any part thereof not encumbered as of the date of this Resolution.

The University may from time to time sell, exchange, lease or otherwise dispose of any equipment, machinery, fixtures, apparatus, tools, instruments or other similar property if it determines that such articles are no longer needed or are no longer useful in connection with the System, and the proceeds thereof shall be applied to the replacement of the properties so sold, exchanged, leased or disposed of or shall be deposited to the credit of the Surplus Fund.

In addition to any sale, exchange, lease or disposition permitted above, the University may from time to time sell, exchange, lease or otherwise dispose of any other property of the System; provided, however, if such sale, exchange, lease or disposition would result in a loss of

more than 10% of the Revenues of the System, the University shall (l) deposit the proceeds derived from such sale, exchange, lease or disposition into the Debt Service Fund, to be used to redeem Bonds on the earliest date on which an optional redemption may be permitted and (2) unless the Bonds will be redeemed in full pursuant to clause (l) or this Resolution or the Bonds are otherwise defeased as provided in Article XI, perform an internal rate study for the System and, if the rate study shows that the remaining Revenues will be insufficient to deposit into the Revenue Fund the entire amount referred to in clauses (a), (b), (c) and (d) of Section 5.1, the University shall adjust its rates in the manner recommended by the rate study so that the Revenues will be sufficient to deposit into the Revenue Fund all of the amounts referred to in clauses (a), (b), (c) and (d) of Section 5.1.

Section 7.14 Payment of Interest on or Principal of Bonds from any Available Moneys. The University covenants that if at any time the moneys held for the credit of the Debt Service Fund and the Reserve Fund shall be insufficient for the purpose of paying the interest on and the principal of the Bonds as such interest and principal becomes due and payable, the University will deposit to the credit of the Debt Service Fund an amount sufficient, together with the amount then held for the credit of the Debt Service Fund, to pay such interest and principal from any moneys available for the use of the University, including the Surplus Fund, and which are not required by law or by previous binding contract to be devoted to some other purpose.

Section 7.15 Reserved.

Section 7.16 <u>Computation Assumptions</u>. For purposes of construing any definitions or computing any covenants set forth in this Resolution, the following rules shall apply:

- (a) The Principal and Interest Requirements on any Balloon Bond in each Fiscal Year will be assumed to be the sum of (i) the principal and interest due in that Fiscal Year (except any Fiscal Year in which more than 25% of the principal amount of the Bond is due, in which case this amount shall be zero) and (ii) the amount of principal and interest assigned to that Fiscal Year assuming that the amount of principal due in any Fiscal Year in which more than 25% of the principal amount of the Bond is due is computed on a level annual debt service schedule calculated at the interest rate on the Bond for a period of 30 years from the date of issuance.
- (b) Principal and Interest Requirements on any Put Bond in each Fiscal Year will be assumed to be the sum of (i) the principal and interest due in that Fiscal Year and (ii) the amount of principal and interest determined by amortizing from its incurrence date the amount of principal that may become subject to mandatory purchase (including purchase that may be required at the option of the owner of the Bond) in any Fiscal Year in which more than 25% of the principal amount of the Bond may be subject to such mandatory purchase on a level annual debt service schedule calculated as described in (a) above.
- (c) Principal and Interest Requirements will be assumed to exclude capitalized interest on Bonds and principal of and interest on Bonds to the extent that amounts are on deposit in an irrevocable escrow or are derived from the proceeds of other

Bonds (including the earnings or other increment to accrue thereon) that must be applied to pay such principal and interest and such amounts are sufficient to pay such principal and interest.

- (d) The interest rate on any Variable Rate Bond will be assumed to be the average interest rate for the most recent 36-month period. However, if the Variable Rate Bond has not been outstanding for 36 months, the interest rate will be assumed to be the higher of (i) the average interest rate in effect for the 12-month period preceding the date of calculation or (ii) the interest rate in effect on the date of calculation.
- (e) For any Bond for which a binding commitment, letter of credit or other credit arrangement providing for the extension of such Bond beyond its original maturity date exists, the computation of Principal and Interest Requirements will be made on the assumption that such Bond will be amortized either (i) in accordance with such credit arrangement or (ii) over a period of 30 years from its original maturity date, whichever is longer.

ARTICLE VIII

EVENTS OF DEFAULT AND REMEDIES

Section 8.1 Events of Default. Each of the following events is hereby declared to be an "Event of Default" under this Resolution:

- (a) due and punctual payment of the principal and of the redemption premium, if any, of any of the Bonds is not made when the same becomes due and payable, either at maturity or by proceedings for redemption or otherwise;
- (b) due and punctual payment of any installment of interest on any of the Bonds is not made when the same becomes due and payable;
- (c) the University unreasonably delays or fails to carry on with reasonable dispatch the construction of any Project for which Bonds are issued under the provisions of this Resolution unless the University receives an opinion from a qualified independent feasibility consultant that such delay or abandonment is in the best interests of the Bondholders;
- (d) the University, for any reason, is rendered incapable of fulfilling its obligations hereunder;
- (e) final judgment for the payment of money is rendered against the University as a result of the ownership, control or operation of the System and any such judgment is not discharged within 60 days from the entry thereof or an appeal is not taken therefrom or from the order, decree or process upon which or pursuant to which such judgment has been granted or entered, in such manner as to stay the execution of or levy under such judgment, order, decree or process or the enforcement thereof;

- (f) an order or decree is entered, with the consent or acquiescence of the University, appointing a receiver or receivers of the System or any part thereof or of the revenues thereof, or if such order or decree, having been entered without the consent or acquiescence of the University, is not vacated or discharged or stayed on appeal within 60 days after the entry thereof;
- (g) any proceeding is instituted, with the consent or acquiescence of the University, for the purpose of effecting a composition between the University and its creditors or for the purpose of adjusting the claims of such creditors pursuant to any federal or state statute now or hereafter enacted, if the claims of such creditors are under any circumstances payable from Revenues;
- (h) the University defaults in the due and punctual performance of any other of the covenants, conditions, agreements and provisions contained in the Bonds or in this Resolution on the part of the University to be performed, and such default continues for 30 days after written notice specifying such default and requiring same to be remedied is given to the Board by any Bondholder provided that if such default is such that it can be corrected but cannot be corrected within such 30 day period, it shall not constitute an Event of Default if corrective action is instituted by the University within such period and is diligently pursued until the default is corrected; or
- (i) an Event of Default occurs under any Parity Indebtedness or Parity Interest Rate Agreement.
- **Section 8.2** Remedies. (a) Upon the happening and continuance of an Event of Default, hereunder, the Holders of not less than 25% in aggregate principal amount of the Bonds, by instrument or instruments filed with the University and proved or acknowledged in the same manner as a deed to be recorded, may appoint a trustee to represent the Holders of the Bonds for the purposes herein, which trustee may be the State Treasurer and shall be the same trustee so appointed with respect to all other outstanding Parity Indebtedness and Parity Swap Obligations. Such trustee may, and upon written request of the Holders of not less than 25% in principal amount of the Bonds then outstanding shall, in its own name:
 - (1) by mandamus or other suit, action or proceeding at law or in equity enforce all rights of the Holders of the Bonds, including the right to require the University and its Board to collect fees, rents, charges or other revenues adequate to carry out an agreement as to, or pledge of, such revenues, and to require the University and Board to carry out any other agreements with the Holders of the Bonds and to perform it and their duties under the Act;
 - (2) bring suit upon the Bonds;
 - (3) by action or suit in equity, require the University to account as if it were the trustee of an express trust for the Holders of the Bonds; or

- (4) by action or suit in equity, enjoin any acts or things which may be unlawful or in violation of the rights of the Holders of the Bonds.
- (b) Any such trustee, whether or not all such Bonds have been declared due and payable, shall be entitled as of right to the appointment of a receiver who may enter and take possession of any property of the University any of the Revenues from which are pledged for the security of the Bonds and operate and maintain the same and collect and receive all fees, rents, charges and other revenues thereafter arising therefrom in the same manner as the University itself might do and shall deposit all such moneys in a separate account and apply the same in such manner as the court appointing such receiver shall direct. In any suit, action or proceeding by the trustee the fees, counsel fees and expenses of the trustee and of the receiver, if any, shall constitute taxable costs and disbursements and all costs and disbursements allowed by the court shall be a first charge on any fees, rents, charges and other Revenues of the University pledged for the security of the Bonds.

Such trustee shall, in addition to the foregoing, have and possess all of the powers necessary or appropriate for the exercise of any functions specifically set forth herein or incident to the general representation of the Holders of the Bonds in the enforcement and protection of their rights.

- (c) To the extent permitted by law, upon the happening and continuance of any Event of Default, then and in every such case any Bondholder may proceed, subject to the provisions of Sections 8.5 and 8.6, to protect and enforce the rights of the Bondholders by a suit, action or special proceeding in equity or at law, either for the specific performance of any covenant or agreement contained herein or in aid or execution of any power herein granted or for the enforcement of any proper legal or equitable remedy as such Bondholder shall deem most effectual to protect and enforce such rights. If necessary and if not inconsistent with the terms of this Resolution or the applicable Series Resolution, the Paying Agent will make any appropriate demands upon the issuers of the Reserve Fund Credit Facility Agreement or the Credit Facility Agreement.
- Section 8.3 Pro Rata Application of Funds. Anything in this Resolution to the contrary notwithstanding, if at any time the moneys in the Debt Service Fund shall not be sufficient to pay the interest on or the principal of the Bonds as the same shall become due and payable, such moneys, together with any moneys then available or thereafter becoming available for such purpose, whether through the exercise of the remedies provided for in this Article or otherwise, shall be applied first to the payment of any fees and expenses of the Custodian, Paying Agent and Registrar and thereafter shall be applied as follows:
 - (a) If the principal of all the Bonds shall not have become due and payable, all such moneys shall be applied

FIRST: to the payment to the persons entitled thereto of all installments of interest then due and payable in the order in which such installments became due and payable and, if the amount available shall not be sufficient to pay in full any

particular installment, then to the payment, ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference except as to any difference in the respective rates of interest specified in the Bonds;

SECOND: to the payment to the persons entitled thereto of the unpaid principal of any of the Bonds which shall have become due and payable (other than Bonds called for redemption for the payment of which moneys are held pursuant to the provisions of this Resolution), in the order of their due dates, with interest on the principal amount of such Bonds at the respective rates specified therein from the respective dates upon which such Bonds became due and payable, and, if the amount available shall not be sufficient to pay in full the principal of the Bonds due and payable on any particular date, together with such interest, then to the payment first of such interest, ratably, according to the amount of such interest due on such date, and then to the payment of such principal, ratably, according to the amount of such principal due on such date, to the persons entitled thereto without any discrimination or preference; and

THIRD: to the payment of the interest on and the principal of the Bonds, to the purchase and retirement of Bonds and to the redemption of Bonds, all in accordance with the provisions of Article V of this Resolution.

(b) If the principal of all the Bonds shall have become due and payable, all such moneys shall be applied

FIRST: to the payment to the persons entitled thereto of all installments of interest due and payable if any, in the order in which such installments became due and payable and, if the amount available shall not be sufficient to pay in full any particular installment, then to the payment, ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference except as to any difference in the respective rates of interest specified in the Bonds; and

SECOND: to the payment of the principal of the Bonds, ratably, to the persons entitled thereto, without preference or priority of any Bond over any other Bond.

Whenever moneys are to be applied by the trustee pursuant to the provisions of this Section, such moneys shall be applied by the trustee at such times, and from time to time, as the trustee in his or her sole discretion shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future; the deposit of such moneys with the Paying Agent, or otherwise setting aside such moneys, in trust for the proper purpose shall constitute proper application by the trustee; and the trustee shall incur no liability whatsoever to the Board, to any Bondholder or to any other persons for any delay in applying any such moneys, so long as the trustee acts with reasonable diligence, having due regard to the circumstances, and ultimately applies the same in

accordance with such provisions of this Resolution as may be applicable at the time of application by the trustee. Whenever the trustee shall exercise such discretion in applying such moneys, he or she shall fix the date (which shall be an interest payment date unless the trustee shall deem another date more suitable) upon which such application is to be made and upon such date interest on the amounts of principal to be paid on such date shall cease to accrue. The trustee shall give such notice (or shall cause the Paying Agent to give such notice) as he or she may deem appropriate of the fixing of any such date and shall not be required to make payment to the holder of any Bond until such Bond shall be surrendered to the trustee or the Paying Agent for appropriate endorsement, or for cancellation if fully paid. Nothing in this Section 8.3 shall entitle the holder of any Bond to any moneys in the Reserve Fund except moneys, if any, held in the account therein for the Series of Bonds of which his or her bond is one.

- Section 8.4 <u>Effect of Discontinuance of Proceedings</u>. In case any proceeding taken by any Bondholder on account of any Event of Default shall have been discontinued or abandoned for any reason, then and in every such case the University and the Bondholders shall be restored to their former positions and rights hereunder, respectively, and all rights and remedies of the Bondholders shall continue as though no such proceedings had been taken.
- Section 8.5 <u>Proceedings for Equal Benefit of All Bondholders</u>. No Bondholder shall have any right in any manner whatever to affect, disturb or prejudice the security of this Resolution or to enforce any right hereunder, except in the manner herein provided, and all proceedings at law or in equity shall be instituted, had and maintained for the equal benefit of all Bondholders.
- Section 8.6 No Remedy Exclusive. (a) No remedy herein conferred on the Bondholders is intended to be exclusive of any other remedy or remedies, and each and every remedy conferred shall be cumulative and shall be in addition to every other remedy given hereunder and under the Act, including, without limitation, the benefits to which the Bondholders shall be entitled pursuant to paragraph (b) of this Section 8.6, or now or hereafter existing at law or in equity or by statute.
- (b) To the extent permitted by the terms of the Act and not inconsistent with any provision of this Resolution or any Series Resolution applicable to the Bonds of a Series, Bondholders shall be entitled to the same rights and remedies provided for in Sections 23-20 and 23-26 of Title 23 that are available to the holders of bonds issued pursuant to the General Higher Education Bond Act, whether or not an Event of Default has occurred.
- Section 8.7 No Delay or Omission Construed to Be a Waiver. No delay or omission of any Bondholder to exercise any right or power accruing upon any Event of Default occurring and continuing as aforesaid shall impair any such right or power or shall be construed to be a waiver of any such Event of Default or an acquiescence therein; and every power and remedy given by this Article to the Bondholders may be exercised from time to time and as often as may be deemed expedient.

ARTICLE IX

EXECUTION OF INSTRUMENTS BY BONDHOLDERS AND PROOF OF OWNERSHIP OF BONDS

- Section 9.1 <u>Execution of Instruments; Proof of Ownership</u>. Any request, direction, consent or other instrument in writing required or permitted by this Resolution to be signed or executed by Bondholders may be in any number of concurrent instruments of similar tenor and may be signed or executed by such Bondholders or their attorneys or legal representatives. Proof of the execution of any such instrument and of the ownership of Bonds shall be sufficient for any purpose of this Resolution and shall be conclusive in favor of the University and the Paying Agent with regard to any action taken by them under such instrument if made in the following manner:
 - (a) The fact and date of the execution by any person of any such instrument may be proved by the verification of any officer in any jurisdiction who, by the laws thereof, has power to take affidavits within such jurisdiction, to the effect that such instrument was subscribed and sworn to before him, or by an affidavit of a witness to such execution. Where such execution is by an officer of a corporation or association or a member of a partnership on behalf of such corporation, association or partnership such verification or affidavit shall also constitute sufficient proof of his authority.
 - (b) The fact of the holding of Bonds hereunder by any Bondholder and the amount and the numbers of such Bonds and the date of its holding the same shall be proved by the registration books kept under the provisions of Section 2.7.

ARTICLE X

SUPPLEMENTAL AND SERIES RESOLUTIONS

- **Section 10.1** Supplemental Resolutions. The University may, from time to time and at any time, without the consent of any holders of the Bonds, adopt such resolutions supplemental hereto as shall not be inconsistent with the terms and provisions hereof (which supplemental resolutions shall thereafter form a part hereof), as follows:
 - (a) to cure any ambiguity or formal defect or omission or to correct any inconsistent provisions in this Resolution or in any supplemental resolution,
 - (b) to provide for the issuance of uncertificated Bonds pursuant to Section 2.2 of this Resolution, or to obtain or maintain a rating for one or more Series of the Bonds,
 - (c) to grant to or confer upon the Bondholders any additional rights, remedies, powers, authority or security that may lawfully be granted to or conferred upon the Bondholders,

- (d) to add to the conditions, limitations and restrictions on the issuance of Bonds under the provisions of this Resolution other conditions, limitations and restrictions thereafter to be observed,
- (e) to add to the covenants and agreements of the Board in this Resolution other covenants and agreements thereafter to be observed by the Board or to surrender any right or power herein reserved to or conferred upon the Board,
- (f) to comply with any proposed, temporary or permanent regulations regarding the arbitrage rebate requirements of the Code, to comply with any other provision of the Code to maintain the tax-exempt status of interest on the Bonds, or to comply with Federal or state securities or "blue-sky" laws,
- (g) to provide for the financing of any project permitted by the Act and the pledging of any revenues permitted by the Act, provided that subsequent to such financing or pledge the University shall be in compliance with all of the terms, covenants and provisions of this Resolution, or
- (h) to modify, alter, amend, add to or rescind, in any particular, any of the terms or provisions contained in this Resolution, if in the opinion of the Paying Agent, who may rely upon a written opinion of counsel nationally recognized in matters concerning municipal bonds, such supplemental resolution shall not materially adversely affect or prejudice the interests of the Bondholders.

At least thirty (30) days prior to the adoption of any supplemental resolution for any of the purposes of this Section, an Authorized Officer of the University shall cause a notice of the proposed adoption of such supplemental resolution to be mailed, postage prepaid, to all registered owners of Bonds at their addresses as they appear on the registration books. Such notice shall briefly set forth the nature of the proposed supplemental resolution and shall state that copies thereof are on file at the office of the Secretary of the Board for inspection by all Bondholders. Failure on the part of an Authorized Officer of the University to mail the notice required by this Section shall not affect the validity of such supplemental resolution.

Section 10.2 <u>Series Resolutions</u>. The University may from time to time adopt a Series Resolution or Resolutions in order to issue Bonds of any Series hereunder. Subject to Section 2.10, such Series Resolution shall set forth any additional terms and provisions for the Bonds of such Series to the extent not inconsistent with the provisions hereof. The consent of the holders of Bonds of any Series outstanding under this Resolution shall not be required (a) to adopt a Series Resolution providing for the issuance of Bonds of another Series or (b) for the issuance of any Parity Indebtedness, Parity Swap Obligations or Subordinate Obligations.

Section 10.3 <u>Modification of the Resolution with Consent of Holders</u>. Subject to the terms and provisions contained in this Section, and not otherwise, the holders of not less than a majority in aggregate outstanding principal amount of each Series of Bonds of all Series then outstanding shall have the right, from time to time, anything contained in this Resolution to the contrary notwithstanding, to consent to and approve the adoption of such resolution or

resolutions supplemental hereto as shall be deemed necessary or desirable by the Board for the purpose of modifying, altering, amending, adding to or rescinding, in any particular, any of the terms or provisions contained in this Resolution or in any supplemental resolution; provided, however, that nothing herein contained shall permit, or be construed as permitting without the approval of all of the Bondholders, (a) an extension of the maturity of the principal of or the interest on any Bond issued hereunder, (b) a reduction in the principal amount of any Bond or the redemption premium or the rate of interest thereon, (c) except as provided herein, the creation of a lien upon or a pledge of Revenues other than the lien and pledge created by this Resolution and liens and pledges permitted by this Resolution, or (d) except as provided herein, a preference or priority of any Bond or Bonds over any other Bond or Bonds, (e) the issuance of indebtedness payable from Net Revenues senior to or on a parity with the Bonds except as provided herein, or (f) a reduction in the aggregate principal amount of the Bonds required for consent to such supplemental resolution. Nothing herein contained, however, shall be construed as making necessary the approval by Bondholders of the adoption of any supplemental resolution as authorized in Section 10.1.

If at any time the Board shall determine that it is necessary or desirable to adopt any supplemental resolution for any of the purposes of this Section, an Authorized Officer shall cause notice of the proposed adoption of such supplemental resolution to be mailed, not less than 30 nor more than 60 days prior to the date of such adoption, postage prepaid, to all registered owners of the Bonds at their addresses as they appear on the registration books held by the Registrar. Such notice shall briefly set forth the nature of the proposed supplemental resolution and shall state that copies thereof are on file at the office of the Secretary of the Board for inspection by all Bondholders. The Board shall not, however, be subject to any liability to any Bondholder by reason of its failure to cause the notice required by this Section to be mailed and any such failure shall not affect the validity of such supplemental resolution when consented to and approved as provided in this Section.

Whenever, at any time within one year after the date of such notice, the Board shall deliver to the Paying Agent an instrument or instruments in writing purporting to be executed by the holders of not less than a majority or all, as appropriate, in aggregate principal amount of the Bonds of all Series then outstanding, which instrument or instruments shall refer to the proposed supplemental resolution described in such notice and specifically consent to and approve the adoption thereof in substantially the form of the copy thereof referred to in such notice, thereupon, but not otherwise, the Board may adopt such supplemental resolution in substantially such form, without liability or responsibility to any holder of any Bond, whether or not such holder shall have consented thereto.

If the holders of not less than a majority or all, as appropriate, in aggregate principal amount of the Bonds of all Series outstanding at the time of the adoption of such supplemental resolution shall have consented to and approved the adoption thereof as herein provided, no Bondholder shall have any right to object to the adoption of such supplemental resolution, or to object to any of the terms and provisions contained therein or the operation thereof, or in any manner to question the propriety of the adoption thereof, or to enjoin or restrain the Board from adopting the same or from taking any action pursuant to the provisions thereof.

Notwithstanding the foregoing, if any supplemental resolution described in this Section affects the holders of less than all of the Series of Bonds outstanding under this Resolution, only the holders of the Bonds of the Series affected by such supplemental resolution need give their approval, as set forth herein.

Upon the adoption of any supplemental resolution pursuant to the provisions of this Section, this Resolution shall be and be deemed to be modified and amended in accordance therewith, and the respective rights, duties and obligations under this Resolution of the University, the Board and all holders of Bonds then outstanding shall thereafter be determined, exercised and enforced in all respects under the provisions of this Resolution as so modified and amended.

Section 10.4 <u>Supplemental Resolutions Part of This Resolution</u>. Any supplemental resolution adopted in accordance with the provisions of this Article shall thereafter form a part of this Resolution, and all of the terms and conditions contained in any such supplemental resolution as to any provision authorized to be contained therein shall be and shall be deemed to be part of the terms and conditions of this Resolution for any and all purposes. In case of the adoption and approval of any supplemental resolution, express reference may be made thereto in the text of any Bonds issued thereafter, if deemed necessary or desirable by the Board.

Section 10.5 Amendments to Resolution Prior to Delivery of First Series of Bonds. On or prior to the delivery of the first Series of Bonds pursuant to Section 2.10 hereof, the Chief Financial Officer or the University Treasurer may make such changes to, and complete any blanks in, this Resolution as shall be necessary to accurately reflect the structure and terms of the financing. On or prior to the delivery of the first Series of Bonds hereunder, the Chief Financial Officer or the University Treasurer shall deliver to the Secretary of the Board a copy of this Resolution with all of the changes and completions referred to in the preceding sentence (the "Final Resolution"), together with a certificate of the Chief Financial Officer or the University Treasurer to the effect that the resolution so delivered is the Final Resolution. The Secretary shall file such Final Resolution with the minutes of the meeting at which this Resolution is adopted. The certificate of the Chief Financial Officer or the University Treasurer referred to above shall be conclusive evidence that any changes made are approved and effective as if such Final Resolution were adopted by the Board.

ARTICLE XI

DEFEASANCE

Section 11.1 <u>Defeasance</u>. If, when the Bonds of any Series secured hereby shall have become due and payable in accordance with their terms or shall have been duly called for redemption or irrevocable instructions to call such Bonds for redemption shall have been given by the University to the Paying Agent, the whole amount of the principal, premium, if any, and the interest so due and payable upon all of such Bonds then outstanding shall be paid or sufficient moneys (as verified by certified public accountants upon request of the Paying Agent), or direct obligations of the United States of America or securities unconditionally guaranteed as to the timely payment of principal and interest by the United States of America, the principal of

and the interest on which when due upon maturity or the earliest redemption date (if such obligations are subject to redemption prior to maturity) will provide sufficient moneys, shall be held by the Paying Agent for such purpose under the provisions of this Resolution and the Series Resolution under which such Bonds were issued, and provision shall also be made for paying all other sums payable hereunder by the University, then and in that case the right, title and interest of the holders of such Bonds in the Revenues, funds and accounts mentioned in this Resolution shall thereupon cease, determine and become void. If all the Bonds of all Series issued hereunder shall have been paid or provided for, the Board in such case, shall repeal and cancel this Resolution and may apply any surplus in any account in the Debt Service Fund and all balances remaining in any other funds or accounts (other than moneys held for the redemption or payment of Bonds or funds representing any Rebate Amount to be paid to the United States of America) to any lawful purpose of the University as the University shall determine; otherwise this Resolution shall be, continue and remain in full force and effect; provided, however, that in the event direct obligations of the United States of America or securities unconditionally guaranteed as to the timely payment of principal and interest by the United States of America, shall be deposited with and held by the Paying Agent as hereinabove provided, and in addition to the requirements set forth in Article III of this Resolution, the Paying Agent shall within 30 days after such obligations shall have been deposited with it cause a notice to be mailed to each Bondholder at its address as set forth in the registration books held by the Registrar setting forth (a) the date designated for the redemption of the Bonds, (b) a description of the obligations so held by it, (c) if this Resolution has been repealed and canceled in accordance with the provisions of this Section and (d) whether the University has retained the right to call the Bonds for redemption prior to their maturity.

All moneys and obligations held by the Paying Agent pursuant to this Section shall be held in trust and the principal and interest of said obligations when received, and said moneys, applied to the payment, when due, of the principal and the interest and the premium, if any, of the Bonds at maturity or upon their redemption date if so called for redemption.

ARTICLE XII

PAYING AGENT AND REGISTRAR

Section 12.1 Paying Agent. (a) The Paying Agent and any successor Paying Agent, by written instrument delivered to the University shall accept the duties and obligations imposed on it under this Resolution and shall act on behalf of the Bondholders. Unless a separate Registrar is appointed by the Chief Financial Officer or the University Treasurer, the Paying Agent shall assume the duties and obligations imposed on the Registrar.

Section 12.2 <u>Successor Paying Agents or Registrars</u>. Any bank or trust company authorized to do business in the Commonwealth may be appointed by the University as successor Paying Agent or Registrar hereunder and immediately upon acceptance of such appointment shall be deemed the successor of the Paying Agent or Registrar for the purposes of this Resolution. The University shall give notice to any Rating Agency of its appointment of any successor Paying Agent or Registrar. The reasonable fees and expenses of any such successor

Paying Agent or Registrar shall be the sole obligation of the University and shall constitute a pledge of the Net Revenues prior to the Bonds, to the extent such fees and expenses are unpaid.

Section 12.3 No Risk to Paying Agent Funds. No provision herein shall require the Paying Agent to expend its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of any of its rights or powers unless the Paying Agent shall have reasonable grounds for believing that repayment of such funds or adequate indemnity against such risk or liability is reasonably assured to it.

Section 12.4 Paying Agent/Registrar/Custodian Reliance and Other Matters. For purposes of this Section 12.4 only, the term "Paying Agent" shall refer to the Paying Agent, the Registrar and the Custodian. The Paying Agent undertakes to perform only such duties as are expressly set forth herein. The duties and responsibilities of the Paying Agent hereunder shall be determined solely by the express provisions of the Resolution, and no further duties or responsibilities shall be implied. The Paying Agent shall not have any liability under, nor duty to inquire into the terms and provisions of, any agreement or instructions, other than as outlined in the Resolution. The Paying Agent may consult with counsel and may rely conclusively and shall be protected in acting or refraining from acting upon any written notice, electronically transmitted communication, instruction or request furnished to it hereunder and believed by it to be genuine and to have been signed or presented by the proper party or parties. The Paying Agent shall be under no duty to inquire into or investigate the validity, accuracy or content of any such document. The Paying Agent shall have no duty to solicit any payments that may be due it hereunder. The Paying Agent shall not be liable for any action taken or omitted by it in good faith unless a court of competent jurisdiction determines that any loss to the University was the result of the Paying Agent's negligent or willful misconduct. The Paying Agent shall not incur any liability for following the instructions herein contained or expressly provided for, or written instructions given by the University. In the administration of its duties under the Resolution, the Paying Agent may execute any of its powers and perform its duties hereunder directly or through agents or attorneys and may consult with counsel, accountants and other skilled persons to be selected and retained by it. The Paying Agent shall not be liable for anything done, suffered or omitted in good faith by it in accordance with the advice or opinion of any such counsel, accountants or other skilled persons. The Paying Agent may resign and be discharged of its duties and obligations hereunder by giving notice in writing of such resignation specifying a date when such resignation shall take effect. Any corporation or association into which the Paying Agent in its individual capacity may be merged or converted or with which it may be consolidated, or any corporation or association resulting from any merger, conversion or consolidation to which the Paying Agent in its individual capacity shall be a party, or any corporation or association to which all or substantially all the corporate trust business of the Paying Agent in its individual capacity may be sold or otherwise transferred, shall be the Paying Agent hereunder without further act. The University covenants and agrees to pay the Paying Agent its fees and expenses (including reasonable attorney's fees, costs and expenses) as agreed upon by the University and the Paying Agent. Furthermore, the University shall pay the Paying Agent for any extraordinary services or expenses performed or incurred by the Paying Agent in connection with its duties under the Resolution provided the University consents in writing prior to the performance of such services or the incurring of such expenses.

The Paying Agent shall not be responsible or liable for any failure or delay in the performance of its obligation under the Resolution arising out of or caused, directly or indirectly, by circumstances beyond its reasonable control, including, without limitation, acts of God, earthquakes, fire, flood, hurricanes or other storms; wars, terrorism, similar military disturbances; sabotage; epidemic, riots, interruptions; loss or malfunctions of utilities, computer (hardware or software) or communications services; accidents; labor disputes; acts of civil or military authority or governmental action; it being understood that the Paying Agent shall use commercially reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as reasonably practicable under the circumstances.

The Paying Agent shall have the right to accept and act upon instructions, including funds transfer instructions ("Instructions") given pursuant to the Resolution and delivered using Electronic Means; provided, however, that the University shall provide to the Paying Agent an incumbency certificate listing Authorized Officers and containing specimen signatures of such Authorized Officers, which incumbency certificate shall be amended by the University whenever a person is to be added or deleted from the listing. If the University elects to give the Paying Agent Instructions using Electronic Means and the Paying Agent in its discretion elects to act upon such Instructions, the Paying Agent's understanding of such Instructions shall be deemed controlling. The University understands and agrees that the Paying Agent cannot determine the identity of the actual sender of such Instructions and that the Paying Agent shall conclusively presume that directions that purport to have been sent by an Authorized Officer listed on the incumbency certificate provided to the Paying Agent have been sent by such Authorized Officer. The University shall be responsible for ensuring that only Authorized Officers transmit such Instructions to the Paying Agent and that the University and all respective Authorized Officers are solely responsible to safeguard the use and confidentiality of applicable user and authorization codes, passwords and/or authentication keys upon receipt by the University. The Paying Agent shall not be liable for any losses, costs or expenses arising directly or indirectly from the Paying Agent's reliance upon and compliance with such Instructions notwithstanding such directions conflict or are inconsistent with a subsequent written instruction. The University agrees: (i) to assume all risks arising out of the use of Electronic Means to submit Instructions to the Paying Agent, including without limitation the risk of the Paying Agent acting on unauthorized Instructions, and the risk of interception and misuse by third parties; (ii) that it is fully informed of the protections and risks associated with the various methods of transmitting Instructions to the Paying Agent and that there may be more secure methods of transmitting Instructions than the method(s) selected by the University; (iii) that the security procedures (if any) to be followed in connection with its transmission of Instructions provide to it a commercially reasonable degree of protection in light of its particular needs and circumstances; and (iv) to notify the Paying Agent immediately upon learning of any compromise or unauthorized use of the security procedures.

"Electronic Means" shall mean the following communications methods: e-mail, facsimile transmission, secure electronic transmission containing applicable authorization codes, passwords and/or authentication keys issued by the Paying Agent, or another method or system specified by the Paying Agent as available for use in connection with its services hereunder.

ARTICLE XIII

MISCELLANEOUS PROVISIONS

Section 13.1 <u>Effect of Covenants</u>. All covenants, stipulations, obligations and agreements of the University and the Board contained in this Resolution shall be deemed to be covenants, stipulations, obligations and agreements of the University and the Board to the full extent authorized by the Act or permitted by the Constitution of Virginia. All such covenants, stipulations, obligations and agreements shall be binding upon the successor or successors thereof from time to time and upon any officer, board, body or commission to whom or to which any power or duty affecting such covenants, stipulations, obligations and agreements shall be transferred by or in accordance with law.

No covenant, stipulation, obligation or agreement herein contained shall be deemed to be a covenant, stipulation, obligation or agreement of any present or future director, member, agent or employee of the University or the Board in his or her individual capacity, and no member of the Board or of any agency of the Commonwealth nor any officer thereof or of the University, present or future, executing the Bonds shall be liable personally on the Bonds or be subject to any personal liability or accountability by reason of the issuance thereof.

Section 13.2 <u>Successor Paying Agents or Registrars</u>. Any bank or trust company authorized to do business in the Commonwealth may be appointed by the University as successor Paying Agent or Registrar hereunder and immediately upon acceptance of such appointment shall be deemed the successor of the Paying Agent or Registrar for the purposes of this Resolution. The University shall give notice to any Rating Agency of its appointment of any successor Paying Agent or Registrar. The reasonable fees and expenses of any such successor Paying Agent or Registrar shall be the sole obligation of the University and shall constitute a pledge of the Revenues prior to the Bonds, to the extent such fees and expenses are unpaid.

- **Section 13.3** Manner of Giving Notice. Any notice, demand, direction, request or other instrument authorized or required by this Resolution to be given or to be filed with the University, the Paying Agent, the Registrar, the Custodian or the Rating Agencies shall be deemed to have been sufficiently given or filed for all purposes of this Resolution if and when sent by registered mail, return receipt requested:
 - (a) to the University, if addressed to the Board of Visitors of Virginia Polytechnic Institute and State University, 220 Burrus Hall, 800 Drillfield Drive, Blacksburg, Virginia 24061, Attention: Chief Financial Officer and University Treasurer;
 - (b) to the Custodian, Paying Agent and/or Registrar, if addressed to The Bank of New York Mellon Trust Company, N.A., 525 William Penn Place, 38th Floor, Pittsburgh, Pennsylvania 15259, Attention: Corporate Trust Administration;
 - (c) to Moody's, if addressed to Moody's Investor Services, 7 World Trade Center, 250 Greenwich Street, New York, New York 10007, Attention: Structured Finance, Telecopier: (212) 298-6442;

- (d) to S&P, if addressed to Standard & Poor's, at 55 Water Street, 38th Floor, New York, New York 10041, Attention: Public Finance Department (Surveillance), Telecopier: (212) 438-2152; and
- (e) to Fitch, if addressed to Fitch Ratings, One State Street Plaza, New York, New York 10004, Attention: Municipal Structured Finance Group, Telecopier: (212) 635-0466.
- Section 13.4 <u>Alternative Notice</u>. If, because of the temporary or permanent suspension of publication of any newspaper or financial journal or suspension of the mails or for any other reason, the University, the Paying Agent or the Custodian shall be unable to give any notice required to be published or mailed by the provisions of this Resolution, the University, the Paying Agent or the Custodian, as the case may be, shall give such notice in such other manner as in the judgment of the University, the Paying Agent or the Custodian shall most effectively approximate such publication thereof, and the giving of such notice in such manner shall for all purposes of this Resolution be deemed to be compliance with the requirement for the publication thereof.
- Section 13.5 <u>Effect of Partial Invalidity</u>. In case any one or more of the provisions of this Resolution or of the Bonds issued hereunder shall for any reason be held to be illegal or invalid, such illegality or invalidity shall not affect any other provision of this Resolution or of said Bonds, but this Resolution and said Bonds shall be construed and enforced as if such illegal or invalid provision had not been contained therein. In case any covenant, stipulation, obligation or agreement contained in the Bonds or in this Resolution shall for any reason be held to be in violation of law, then such covenant, stipulation, obligation or agreement shall be deemed to be the covenant, stipulation, obligation or agreement of the University to the full extent permitted by law.
- **Section 13.6** Governing Law. This Resolution is adopted with the intent that the laws of the Commonwealth shall govern its construction without regard to conflict of law principles.
- **Section 13.7** Repeal of Inconsistent Provisions. Any prior resolutions or provisions of resolutions of the Board inconsistent with any provisions of this Resolution are hereby repealed.
- Section 13.8 <u>Ratification of Optional Redemption of Series 2004C Bonds</u>. The optional redemption of all of the outstanding Series 2004C Bonds is hereby ratified.
- Section 13.9 Effective Date of this Resolution. This Resolution shall become effective subsequent to its adoption by the Board on the date as determined by an Authorized Officer of the University, any of whom may act, which shall be (a) no earlier than the earliest date as of which all of the following shall have occurred: (i) the University has received the written consents thereto of the Governor and the Treasury Board of the Commonwealth and (ii) the Series 2004C Bonds have been optionally redeemed in full, and (b) no later than the Business Day on which the first Series of Bonds is issued hereunder.

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VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

SERIES	RESOLUTION

AUTHORIZING AND SECURING UNIVERSITY SERVICES SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015C

ADOPTED ON AUGUST 31, 2015

EFFECTIVE ON ______, 2015, THE DATE SPECIFIED IN SECTION 6.6

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Exhibit A – Form of Bonds

A SERIES RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY UNIVERSITY SERVICES SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015C, TO PAY A PORTION OF THE COST OF RESURFACING AND CONSTRUCTING NEW INFRASTRUCTURE FOR THE SOUTH RECREATION FIELD; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF AND THE INTEREST ON SUCH BONDS CERTAIN GENERAL REVENUES AND THE NET REVENUES OF THE UNIVERSITY'S UNIVERSITY SERVICES SYSTEM AS PROVIDED HEREIN; AWARDING THE BONDS; APPOINTING THE PAYING AGENT.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth of Virginia which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.
- D. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.
- E. The Board has adopted an amended and restated resolution providing for the issuance of university services system revenue bonds pursuant to the Act (the "Master Resolution").
- F. The Board has heretofore determined to resurface the nine acres of the South Recreation Field with synthetic turf and construct new infrastructure for the creation of multiple fields and to allow for ongoing maintenance (the "Project"), which will become a part of the University's University Services System (the "System").
 - G. The Board has determined that the Project may be financed under the Act.

- H. For the purpose of providing funds to finance a portion of the costs of the Project and costs to be incurred in connection with the issuance thereof, the Board has determined to issue university services system and general revenue pledge bonds of the University (the "Bonds") under the Master Resolution pursuant to this Series Resolution.
- I. The Board has ascertained (a) the estimated annual revenues to be derived by the University from its operation and ownership of the System based on the fees, rents and charges to be fixed, charged and collected for or in connection with the use, occupation or services of the facilities comprising the System, and (b) the estimated annual expenses of maintaining, repairing and operating the System, and has determined that sufficient revenues will be derived from its operation and ownership of the System, after the payment of such expenses of maintenance, repair and operation to pay the principal of and the interest on the Bonds hereinafter authorized to be issued under this Series Resolution and to meet other requirements of this Series Resolution and the Master Resolution.
- J. The Board has determined that the Bonds will also be secured by a pledge of certain general revenues of the University as contemplated by the Act and as more particularly described herein.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF VISITORS OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY:

ARTICLE I DEFINITIONS

Section 1.1 <u>Definitions.</u> Unless otherwise required by the context, all terms used herein which are defined in the Master Resolution or in the Recitals hereto shall have the meanings assigned to them therein. These additional terms shall have the following meanings:

"Bonds" means the University's University Services System and General Revenue Pledge Bonds, Series 2015C, issued pursuant to this Series Resolution under the Master Resolution.

"Business Day" means a day other than (i) a Saturday, Sunday or other day on which banking institutions in the Commonwealth or the city in which the Designated Office of the Paying Agent is located are authorized or required by law to close or (ii) a day on which the New York Stock Exchange is closed.

"DTC" means The Depository Trust Company and any successor company.

"Fitch" means Fitch Ratings, a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "Fitch" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

"Interest Payment Date" means June 1, 2016, and each June 1 and December 1 thereafter (unless such date is not a Business Day, in which event payment of interest shall be made on the next succeeding Business Day).

"Master Resolution" means that Amended and Restated Resolution providing for the issuance of university services system revenue bonds, adopted by the Board on August 31, 2015, as it may be supplemented and amended.

"Moody's" means Moody's Investors Service, Inc., a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "Moody's" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

"Parity Credit Obligation" means any Credit Obligation of the University which may be incurred in accordance with the terms of this Series Resolution or has been incurred that is secured on a parity with the pledge of Pledged General Revenues herein, including, without limitation, all other bonds being issued by the University on the date of initial issuance of the Bonds.

"Parity Pledged General Revenue Interest Rate Agreement" shall mean any Interest Rate Agreement, any portion of the payments by the University under which is on a parity as to right to payment from Pledged General Revenues, and is equally and ratably secured by a pledge of such Pledged General Revenues, with the holders of the Bonds.

"Parity Pledged General Revenue Swap Obligations" shall mean the amounts payable by the University to the Hedge Provider pursuant to a Parity Pledged General Revenue Interest Rate Agreement that, as specified in the Parity Pledged General Revenue Interest Rate Agreement, are on a parity as to right to payment from Pledged General Revenues, and are equally and ratably secured by a pledge of such Pledged General Revenues, with the holders of the Bonds.

"Pledged General Revenues" means any or all of the revenues now or hereafter available to the University which are not required by law, by binding contract entered into prior to the date of this Series Resolution or by the provisions of any Qualifying Senior Obligation to be devoted to some other purpose, and shall include, without limitation, all revenues pledged to the payment of any Qualifying Senior Obligation net of amounts necessary to pay it or any operating or other expenses, the payment of which is required or permitted to be made with such revenues prior to the payment of such Qualifying Senior Obligation.

"Qualifying Senior Obligation" means any existing Credit Obligation other than a Parity Credit Obligation secured by a pledge of any portion of the Pledged General Revenues, and any additional Credit Obligation issued pursuant to Section 4.2(b) or 4.2(c) or to refund any Qualifying Senior Obligation as described in Section 4.2(e).

"Rating Agency" means Moody's, S&P and/or Fitch, if any or all of such rating agencies have provided a rating for the Bonds. If any such corporation ceases to act as a securities rating agency, the University may appoint any nationally recognized securities rating agency as a replacement.

"Record Date" means the 15th day of the month preceding each Interest Payment Date, whether or not such 15th day is a Business Day.

"Resolution" means the Master Resolution, as supplemented by this Series Resolution, together with all supplements and amendments thereto.

"Securities Depository" means DTC and any other securities depository for the Bonds appointed pursuant to Section 2.7.

"Series Resolution" means this Series Resolution, together with all supplements and amendments hereto.

"S&P" means Standard & Poor's, a Division of The McGraw-Hill Companies, a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such division shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "S&P" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

"Underwriters" mean a group of underwriters managed or co-managed by Merrill Lynch, Pierce, Fenner & Smith Incorporated, Davenport & Company, LLC, Morgan Stanley & Co., LLC, and Wells Fargo Bank, National Association.

ARTICLE II FORM, EXECUTION, DELIVERY, REGISTRATION AND PAYMENT OF BONDS; TAX COVENANTS

Section 2.1 Form of Bonds. The Bonds issued under the provisions of Section 2.2 shall be substantially in the form set forth in Exhibit A attached hereto, with such appropriate variations, omissions or insertions as are permitted or required by the Resolution.

Section 2.2 <u>Issuance of Bonds</u>. There shall be initially issued under and secured by the Resolution, Bonds of the University in the aggregate principal amount of \$3,800,000 for the purpose of providing funds to finance a portion of the Cost of the Project. The Bonds shall be designated "Virginia Polytechnic Institute and State University University Services System and General Revenue Pledge Bonds, Series 2015C", shall be dated their date of initial issuance, shall be numbered R-1 and up, shall be issued in denominations of \$5,000 or whole multiples of \$5,000 and shall mature on June 1 in such amounts and in such years as will be determined by the Chief Financial Officer or the University Treasurer prior to the issuance of the Bonds. The Bonds shall bear interest at the rate or rates to be approved by the Chief Financial Officer or the University Treasurer, with a true interest cost not to exceed 5.00% per annum. The execution of the Bonds by the University's President and by the Chief Financial Officer or the University Treasurer shall be conclusive evidence of the requisite approval of the maturity schedule (including any mandatory sinking fund redemption schedule) and the rate or rates payable on the Bonds.

Interest on the Bonds shall be payable on each Interest Payment Date. Each Bond shall bear interest from the Interest Payment Date next preceding the date on which it is authenticated,

unless any Bond is (a) authenticated before the first Interest Payment Date following the initial delivery of the Bonds, in which case it shall bear interest from its dated date or (b) authenticated upon an Interest Payment Date, in which case it shall bear interest from such Interest Payment Date; provided, however, that if at the time of authentication of any Bond interest is in default, such Bond shall bear interest from the date to which interest has been paid.

- **Section 2.3** <u>Computation of Interest</u>. Interest on the Bonds shall be computed on the basis of a 360-day year of twelve 30-day months and shall be payable on each Interest Payment Date or other date fixed for the redemption or maturity of the Bonds.
- Section 2.4 Payment of Interest on and Principal of Bonds. Principal of and premium, if any, and interest on the Bonds shall be payable in lawful money of the United States of America, but only from the revenues lawfully available therefor pursuant to the Act and pledged to the payment thereof as hereinafter provided. Principal of and premium, if any, on the Bonds shall be payable upon presentation and surrender of the Bonds as they become due at the Designated Office of the Paying Agent. Interest on Bonds shall be payable to the registered owners of Bonds by check or draft mailed to such owners at their addresses as they appear on registration books kept by the bond registrar on the 15th day of the month preceding the applicable Interest Payment Date.
- Payments to Bondholders. The University shall, at appropriate times on Section 2.5 or before each Interest Payment Date or date on which principal of the Bonds comes due, whether by redemption or maturity, determine the amount required to pay principal of, redemption premium, if any, and interest on the Bonds then coming due and whether there are sufficient amounts available in the Debt Service Fund (such moneys are referred to as the "Sinking Fund Moneys Available for Payment") to pay the principal of, redemption premium, if any, and interest on the Bonds then coming due. If such Sinking Fund Moneys Available for Payment are determined by the University to be insufficient to make such payment then coming due on the Bonds, the University shall make available to the Paying Agent from Revenues or from Pledged General Revenues or other available moneys referred to in Section 7.14 of the Master Resolution, not later than 10:00 a.m., New York time, on the date such sums are due, an amount, which when added to the Sinking Fund Moneys Available for Payment, will be sufficient to pay the principal of, redemption premium, if any, and interest on the Bonds then coming due, and the Paying Agent shall pay or cause the same to be paid to the holders of the Bonds when due.
- Section 2.6 <u>Application of Proceeds of Bonds</u>. The proceeds from the sale of the Bonds shall be deposited into the Construction Fund to be used in accordance with the Master Resolution to pay the Cost of the Project and the costs of issuing the Bonds.
- **Section 2.7 Book Entry Provisions.** The provisions of this Section 2.7 shall apply to the Bonds so long as all of the Bonds shall be maintained in book-entry form with a Securities Depository, any other provisions of this Series Resolution to the contrary notwithstanding.
- (a) The principal or redemption price of and interest on the Bonds shall be payable to the Securities Depository, or registered assigns, as the registered owner of the Bonds, in same day funds on each date on which the principal of, and premium, if any, or interest on the Bonds

is due as set forth in this Series Resolution and in the Bonds. Such payments shall be made to the offices of the Securities Depository specified by the Securities Depository to the University and Paying Agent in writing. Without notice to or the consent of the beneficial owners of the Bonds, the University and the Securities Depository may agree in writing to make payments of principal and interest in a manner different from that set out herein. If such different manner of payment is agreed upon, the University shall give the Paying Agent written notice thereof, and the Paying Agent shall make payments as if set forth herein. Neither the University nor the Paying Agent shall have any obligation with respect to the transfer or crediting of the appropriate principal, premium, if any, and interest payments to participants of the Securities Depository or the beneficial owners of the Bonds or their nominees.

- (b) The Paying Agent, at the written direction of the University, may replace any Securities Depository as the depository for the Bonds with another qualified Securities Depository or discontinue the maintenance of the Bonds in book-entry form at any time if the University determines to do so. Notice of any determination above shall be given to such Securities Depository at least 30 days prior to any such discontinuation (or such fewer number of days as shall be acceptable to such Securities Depository). The University may undertake to locate a qualified replacement Securities Depository and/or may discontinue the book-entry system of evidencing ownership of the Bonds.
- (c) If the University discontinues the maintenance of the Bonds in book-entry form, the University will issue replacement Bonds directly to the participants in the former Securities Depository or, to the extent requested by any such participant, to the beneficial owners of Bonds as further described in this Section. The Paying Agent, at the written direction of the University, shall notify participants and the beneficial owners of the Bonds, by mailing an appropriate notice to the Securities Depository, or by other means deemed appropriate by either the Securities Depository or the Paying Agent, that the University will issue replacement Bonds directly to the participants shown on the records of the Securities Depository or, to the extent requested by any participant, to beneficial owners of the Bonds shown on the records of such participant, as of a date set forth in such notice, which shall be a date at least 10 days after receipt of such notice by the Securities Depository (or such fewer number of days as shall be acceptable to the Securities Depository).

In the event that replacement Bonds are to be issued to participants in the Securities Depository or to beneficial owners of the Bonds, the University shall promptly have prepared replacement Bonds registered in the names of the participants as shown on the records of the former Securities Depository or, to the extent requested by any participant, in the names of the beneficial owners of Bonds shown on the records of such participant, as of the date set forth in the notice delivered in accordance with the immediately preceding paragraph. Replacement Bonds issued to participants in the Securities Depository or to beneficial owners shall be in fully registered form substantially in the form of Exhibit A. The form set forth in Exhibit A may be modified to include any variations, omissions or insertions that are necessary or desirable in the delivery of replacement certificates in printed form. In delivering replacement certificates, the Paying Agent shall be entitled to rely, without independent investigation, on the records of the former Securities Depository as to its participants and the records of the participants acting on behalf of the beneficial owners. The Bonds will thereafter be registrable and exchangeable as set forth in the Master Resolution.

- (d) So long as there is a Securities Depository for the Bonds, (1) such Securities Depository shall be the registered owner of the Bonds, (2) transfers of ownership and exchanges shall be effected on the records of the Securities Depository and its participants pursuant to rules and procedures established by such Securities Depository and its participants, and (3) references in this Series Resolution to Bondholders, holders or registered owners of the Bonds shall mean the Securities Depository and shall not mean the beneficial owners of the Bonds.
- (e) If the University replaces any Securities Depository as the depository for the Bonds with another qualified Securities Depository, replacement Bonds issued to such replacement Securities Depository shall have the same terms, form and content as the Bonds initially registered in the name of the predecessor Securities Depository or its nominee except for the name of the registered owner.
- (f) Each Securities Depository and the participants thereof and the beneficial owners of the Bonds, by their acceptance of the Bonds, agree that the University and the Paying Agent shall have no liability or responsibility with respect to (1) the accuracy of any records maintained by such Securities Depository or any Securities Depository participant; (2) the payment by such Securities Depository to any Securities Depository participant or by any Securities Depository participant to any beneficial owner of any amount due in respect of the principal of and premium, if any, and interest on the Bonds; (3) the delivery or timeliness of delivery by such Securities Depository to any Securities Depository participant or by any Securities Depository participant to any beneficial owner of any notice which is given to Bondholders; (4) the selection of the beneficial owners to receive payment in the event of any partial redemption of the Bonds; or (5) any consent given or other action taken by such Securities Depository or any nominee of such Securities Depository, as Bondholder.
- Section 2.8 <u>Tax Covenants</u>. (a) The University shall not use or permit the use of any proceeds of Bonds or any other funds of the University directly or indirectly, to acquire any securities or obligation, and shall not use or permit the use of any amounts received by the University or the Custodian with respect to the Bonds in any manner, and shall not take or permit to be taken any other action or actions, which would cause any Bond to be an "arbitrage bond" within the meaning of Section 148 of the Code. If at any time the University is of the opinion that for purposes of this subsection it is necessary to restrict or limit the yield on the investment of any moneys held or controlled by it under this Series Resolution, the University shall so instruct the Custodian, any trustee or the Paying Agent in writing, and the Custodian, trustee or Paying Agent shall take such action as may be reasonably necessary in accordance with such instructions.
- (b) The University shall not use or permit the use of any proceeds of Bonds or any other funds of the University, directly or indirectly, in any manner, and shall not take or permit to be taken any other action or actions, which would result in any of the Bonds being treated as an obligation not described in Section 103(a) of the Code by reason of classification of such Bond as a "private activity bond," an "arbitrage bond" or "bond not in registered form" within the meaning of Section 103(b) of the Code.
- (c) The University shall at all times do and perform all acts and things permitted by law and this Series Resolution which are necessary or desirable in order to assure that interest

paid on the Bonds or any of them will be excludable from gross income for federal income tax purposes and shall take no action that would result in such interest not being excludable from gross income for federal income tax purposes.

- (d) The University covenants that no more than 10% of the space in the Project will be leased to or used exclusively by a private entity nor will more than 10% of the revenues to be derived from the Project be payable, directly or indirectly, by a private entity.
- (e) The University covenants that it shall file the information reports with respect to the Bonds required by Section 149(e) of the Code (currently Form 8038-G) within the time periods provided in such Section.
- (f) The University represents that the Bonds are not and will not be "federally guaranteed," as such term is used in Section 149(b) of the Code.
- (g) Notwithstanding the foregoing, the University may amend this section or alter or eliminate any actions or restrictions allowed or required by this section, if it receives an opinion of Bond Counsel that such amendments, alterations or eliminations would not alter the Bondholders' U.S. federal income tax treatment of principal and interest payments on the Bonds.
- Section 2.9 Arbitrage Rebate. The University, at its expense, shall take all steps necessary to cause the requirements of Section 148 of the Code to be complied with, including but not limited to all reporting and rebate requirements. Without limiting the generality of the foregoing the University, at its sole expense, shall: (i) pay the amount required to be paid to the United States of America in accordance with the rebate requirement described in Section 148(f) of the Code (the "Rebate Amount"); (ii) determine the Rebate Amount for each bond year and upon payment in full of all amounts due under the Bonds; (iii) retain records of all such determinations until six years after payment in full of all amounts due under the Bonds; and (iv) comply with any similar requirements contained in any temporary, proposed or permanent regulations of the Internal Revenue Service adopted with respect to Section 148(f) of the Code.

Notwithstanding anything to the contrary in this Series Resolution, no payment shall be made by the University to the United States of America if the University obtains an opinion of Bond Counsel to the effect that such payment is not required under Section 148 of the Code in order to prevent the Bonds from becoming "arbitrage bonds."

ARTICLE III REDEMPTION OF BONDS

Section 3.1 Redemption of Bonds. (a) The Bonds issued under the provisions of this Series Resolution shall not be subject to prior redemption except as provided in this Article III and as set forth in the form of the Bonds contained in Exhibit A. Subject to applicable procedures of the Securities Depository while the Bonds are held in book-entry only form by the Securities Depository, and except as otherwise provided in the case of extraordinary redemption of the Bonds in accordance with subsection (c) below, if less than all of the Bonds shall be called for redemption, the Bonds to be redeemed shall be selected by the University in such manner as the University in its discretion may determine.

- (b) The Bonds shall be subject to optional and mandatory redemption as set forth in the form of the Bonds contained in Exhibit A. The Bonds that may be subject to optional redemption, the redemption premiums, if any, due upon an optional redemption and the mandatory sinking fund redemption schedule, if any, shall be as approved by the Chief Financial Officer or the University Treasurer prior to the issuance of the Bonds. The execution of the Bonds by the University's President and by the Chief Financial Officer or the University Treasurer shall be conclusive evidence of his approval of such matters.
- (c) The Bonds shall also be subject to redemption in whole or in part on any date, at the option of the University, from the proceeds of casualty insurance or condemnation awards, at a redemption price equal to 100% of the principal amount thereof to be redeemed, without premium, plus accrued interest to the redemption date, if all or any part of the Project financed with the Bonds is damaged or destroyed or taken through the exercise of the power of eminent domain and an Authorized Officer has delivered a certificate to the Custodian to the effect that the University has determined not to use such proceeds to replace or rebuild the damaged, destroyed or taken property. In the event of a redemption in part pursuant to this paragraph, the University shall redeem the Bonds from each maturity then outstanding, to the extent practicable, in the proportion that the principal amount of the Bonds of such maturity bears to the total principal amount of the Bonds then outstanding.
- (d) At its option, to be exercised on or before the fortieth day next preceding any applicable sinking fund redemption date, the University may receive a credit against its mandatory sinking fund redemption obligation for the Bonds which prior to such date have been purchased by the University and presented to the Paying Agent for cancellation or redeemed (otherwise than through the operation of the sinking fund) and canceled by the Paying Agent and, in either case, not theretofore applied as a credit against any sinking fund redemption obligation.

Each Bond so purchased, delivered or previously redeemed shall be credited by the Paying Agent at 100% of the principal amount thereof against the obligation of the University on such sinking fund redemption date to redeem Bonds. Any excess over such obligation shall be credited against applicable future sinking fund redemption obligations, or deposits with respect thereto, in such order of maturity as shall be determined by the University, and the principal amount of such Bonds to be redeemed by operation of the sinking fund shall be accordingly reduced.

Section 3.2 Notice of Redemption. (a) Whenever Bonds are to be redeemed under the provisions of the Resolution, the Paying Agent shall, not less than 30 nor more than 60 days prior to the redemption date, mail notice of redemption to all registered owners of all Bonds to be redeemed at their registered addresses. The Paying Agent shall also mail a copy of any such notice of redemption to any Rating Agency. Any such notice of redemption shall be given in the name of the University, shall identify the Bonds to be redeemed, shall specify the redemption date and the redemption price, and shall state that on the redemption date the Bonds called for redemption will be payable at the office of the Paying Agent and that from that date interest will cease to accrue. The Paying Agent may use "CUSIP" numbers in notices of redemption as a convenience to Bondholders, provided that any such notice shall state that no representation is

made as to the correctness of such numbers either as printed on the Bonds or as contained in any notice of redemption.

If at the time of mailing of notice of any optional redemption the University shall not have caused to be deposited with the Paying Agent moneys sufficient to redeem all the Bonds called for redemption, such notice may state that it is conditional in that it is subject to the deposit of the redemption moneys with the Paying Agent not later than the redemption date, and such notice shall be of no effect unless such moneys are so deposited. Failure by the Paying Agent to give any notice of redemption or any defect in such notice as to any particular Bonds shall not affect the validity of the call for redemption of any Bonds in respect of which no such failure or defect has occurred. Any notice mailed as provided in this Series Resolution shall be conclusively presumed to have been given whether or not actually received by any holder.

ARTICLE IV GENERAL REVENUE PLEDGE; RELATED COVENANTS

- Section 4.1 <u>Pledge of Pledged General Revenues</u>. In addition to the pledge of Revenues securing the Bonds, the University hereby pledges its Pledged General Revenues to the payment of the principal, interest and premium on the Bonds.
- **Section 4.2** Additional Indebtedness and Encumbrances. The University may incur or issue other Credit Obligations payable from or secured by Pledged General Revenues only if the conditions set forth below in subsection (a), (b), (c) or (e) are met in each instance:
- Limitation on Parity Credit Obligations. All other Credit Obligations issued by the University on the date of issuance of the Bonds shall be Parity Credit Obligations insofar as Pledged General Revenues are concerned. The University may incur, assume, guarantee or otherwise become liable on any other Parity Credit Obligation, but only if, prior to the incurrence of each such Parity Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Parity Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Pledged General Revenue Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such Parity Credit Obligation and (B) the completion of any facility financed with the proceeds of such Parity Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Parity Credit Obligation, and (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of the Resolution. Any such Parity Credit Obligation shall be designated by the University as a Parity Credit Obligation and shall be secured by a pledge of Pledged General Revenues on a parity with the pledge of Pledged General Revenues herein, unless expressly subordinated to the pledge hereof.
- (b) <u>Limitation on Section 9(c) Credit Obligations</u>. The University may incur, assume, guarantee or otherwise become liable on any Credit Obligation pursuant to the

provisions of Article X, Section 9(c) of the Constitution of Virginia, as such section may be amended from time to time, and may pledge and apply such portion of the Pledged General Revenues as may be necessary to provide for the payment of any such Credit Obligation, the funding of reasonable reserves therefor, or the payment of operating and other reasonable expenses of the facilities financed in whole or in part with the proceeds of such Credit Obligation or facilities reasonably related to such facilities, but only if, prior to the incurrence of each such Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Pledged General Revenue Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such proposed Credit Obligation and (B) the completion of any facility financed with the proceeds of such proposed Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Credit Obligation, (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of the Resolution, and (3) in connection with the issuance of such proposed Credit Obligation, the University has received an opinion of Bond Counsel to the effect that such proposed Credit Obligation has been validly issued under Article X, Section 9(c) of the Constitution of Virginia. If any such Credit Obligation is designated by the University as a Qualifying Senior Obligation, the pledge of Pledged General Revenues securing such Credit Obligation as described above shall be senior and superior in all respects to the pledge of Pledged General Revenues securing the Bonds, any other Parity Credit Obligations and any Parity Pledged General Revenue Swap Obligations.

Limitation on Other Credit Obligations, Including Section 9(d) Credit Obligations. The University may incur, assume, guarantee or otherwise become liable on any Credit Obligation not described elsewhere in this Section 4.2, including any Credit Obligation incurred pursuant to the provisions of Article X, Section 9(d) of the Constitution of Virginia, as such section may be amended from time to time, and may pledge and apply such portion of the Pledged General Revenues as may be necessary for the payment of any such Credit Obligation, the funding of reasonable reserves therefor, or the payment of operating and other reasonable expenses of the facilities financed in whole or in part with the proceeds of such Credit Obligation or facilities reasonably related to such facilities, but only if, prior to the incurrence of each such Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Pledged General Revenue Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such proposed Credit Obligation and (B) the completion of any facility financed with the proceeds of such proposed Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Credit Obligation, (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of the Resolution, and (3) the

University has received an opinion of Bond Counsel to the effect that such proposed Credit Obligation has been validly issued under the relevant provisions of the Constitution of Virginia. If any such Credit Obligation is designated by the University as a Qualifying Senior Obligation, the pledge of Pledged General Revenues securing such Credit Obligation as described above shall be senior and superior in all respects to the pledge of Pledged General Revenues securing the Bonds, any other Parity Credit Obligations and any Parity Pledged General Revenue Swap Obligations.

- (d) <u>Limitation on Issuance of Indebtedness on a Parity with Qualifying Senior Obligations</u>. Except for Credit Obligations issued pursuant to subsections (b) or (c) above or to refund any Qualifying Senior Obligation as described in subsection (e) below, no additional bonds or other obligations may be issued or incurred by the University on a parity with any Qualifying Senior Obligation.
- (e) <u>Limitation on Issuance of other Credit Obligations or Additional Encumbrances</u>. The University shall not issue Credit Obligations payable from Pledged General Revenues or otherwise encumber the Pledged General Revenues in any manner (except as permitted in connection with Parity Pledged General Revenue Swap Obligations pursuant to Section 4.3 or Credit Obligations issued pursuant to subsections (a), (b) or (c) above or to refund any Qualifying Senior Obligation as described below), unless any such encumbrance is made junior and subordinate in all respects to the liens, pledges, covenants and agreements of this Series Resolution. Notwithstanding anything to the contrary herein, however, the University may issue bonds to refund any Qualifying Senior Obligation and to secure such refunding bonds with the same source of revenues securing the Qualifying Senior Obligation being refunded. Upon the defeasance of the refunded Qualifying Senior Obligation pursuant to any such refunding, the refunding bonds will be considered Qualifying Senior Obligations for all purposes.
- (f) <u>Credit Obligations Payable from System Revenues</u>. The issuance of Credit Obligations payable from Revenues of the System shall be as provided in the Master Resolution.
- Section 4.3 <u>Interest Rate Agreements</u>. The University may enter into Interest Rate Agreements, the amounts payable by the University under which are on a parity, or are subordinate, as to right to payment from Pledged General Revenues with the Bonds. Each Parity Pledged General Revenue Interest Rate Agreement shall designate which payments thereon, whether regularly scheduled payments, termination payments or other payments, are on a parity with the holders of the Bonds as to the right to payment from Pledged General Revenues.
- Section 4.4 <u>Disposition of Assets</u>. The University may convey, sell or otherwise dispose of any property of the University as long as (1) such conveyance, sale or encumbrance is in the ordinary course of business, or (2) an Authorized Officer certifies in writing that, taking into account the conveyance, sale or other disposition of such property (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Interest Rate Agreements, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after such conveyance, sale or other disposition and (ii)

such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts due under all indebtedness of the University then outstanding.

- Section 4.5 <u>Insurance</u>. The University covenants that it will at all times carry or cause to be carried insurance policies with a responsible insurance company or companies, qualified to assume the risks thereof, or that it will maintain an adequate program of self-insurance, in either case sufficient to provide the University with insurance in such amount and covering such risks as the University shall deem to be reasonable and desirable.
- **Section 4.6** Rights of Bondholders Not to Be Impaired. Except as otherwise set forth in the Resolution, the University covenants that no contract or contracts will be entered into or any action taken which might impair or diminish the rights of the Bondholders.
- **Section 4.7** Further Instruments and Actions. The University covenants that it will, from time to time, execute and deliver such further instruments and take such further action as may be required to carry out the purposes of this Series Resolution.
- **Section 4.8** <u>Accurate Records and Accounts</u>. The University covenants that it will keep accurate records and accounts of all items of cost and of all expenditures relating to Pledged General Revenues collected and the application of such Pledged General Revenues.
- **Section 4.9** Recognized Accounting Principles. The University covenants that all of the accounts and records of the University will be kept according to generally accepted accounting principles consistently applied.

ARTICLE V AMENDMENTS AND SUPPLEMENTS

- **Section 5.1** <u>Amendments to Series Resolution</u>. This Series Resolution may be amended or supplemented in a similar manner and upon similar terms and conditions as the Master Resolution may be amended or supplemented.
- Section 5.2 Amendments to Series Resolution Prior to Delivery of Bonds. On or prior to the delivery of the Bonds, the Chief Financial Officer or the University Treasurer may make such changes to, and complete any blanks in, this Series Resolution as shall be necessary to accurately reflect all negotiations among the University and the Underwriters with respect to the structuring of the financing, including, without limitation, the terms and provisions of the Bonds; provided, however, that no such amendment shall increase the principal amount of the Bonds by greater than 10%. On or prior to the delivery of the Bonds, the Chief Financial Officer or the University Treasurer shall deliver to the Secretary of the Board a copy of this Series Resolution with all of the changes and completions referred to in the preceding sentence (the "Final Resolution"), together with a certificate of the Chief Financial Officer or the University Treasurer to the effect that the resolution so delivered is the Final Resolution. The Secretary shall file such Final Resolution with the minutes of the meeting at which this Series Resolution is adopted. The certificate of the Chief Financial Officer or the University Treasurer referred to above shall be conclusive evidence that any changes made are approved and effective as if such Final Resolution were adopted by the Board.

ARTICLE VI MISCELLANEOUS

- **Section 6.1** Approval, Execution and Delivery of Necessary and Appropriate Documents. The Preliminary Official Statement of the University relating to the offering of the Bonds for sale, and the distribution thereof by the Underwriters, are hereby approved, ratified and confirmed. The Chief Financial Officer or the University Treasurer is authorized to "deem final" the Preliminary Official Statement as of its date, within the meaning of Rule 15c2-12 of the Securities and Exchange Commission. The Chief Financial Officer or the University Treasurer is also authorized to negotiate, execute and deliver and deem final, in necessary and appropriate form, the following documents:
- (a) a final Official Statement relating to the offering of the Bonds for sale, in substantially the form presented at the meeting at which this Series Resolution is adopted;
- (b) the Bond Purchase Agreement relating to the purchase of the Bonds, in substantially the form presented at the meeting at which this Series Resolution is adopted, such Bond Purchase Agreement to provide for a true interest cost not to exceed 5.00% per annum;
- (c) the University's Continuing Disclosure Agreement for the benefit of the Bondholders, in substantially the form presented at the meeting at which this Series Resolution is adopted; and
- (d) such other documents and instruments as he deems necessary or appropriate in connection with the issuance of the Bonds, so long as such documents and instruments do not conflict with the intent of this Series Resolution.
- **Section 6.2 Bond Delivery.** All directors, officers and employees of the University are hereby authorized to take all actions necessary to accomplish the delivery of the Bonds to the Underwriters.
- **Section 6.3** Governing Law. This Series Resolution is adopted with the intent that the laws of the Commonwealth shall govern its construction.
- **Section 6.4** Repeal of Inconsistent Provisions. Any prior resolutions or provisions of resolutions of the Board inconsistent with any provisions of this Series Resolution are hereby repealed.
- Section 6.5 <u>Effect of Partial Invalidity</u>. In case any one or more of the provisions of this Series Resolution or of the Bonds issued hereunder shall for any reason be held to be illegal or invalid, such illegality or invalidity shall not affect any other provision of this Series Resolution or of the Bonds, but this Series Resolution and the Bonds shall be construed and enforced as if such illegal or invalid provision had not been contained therein. In case any covenant, stipulation, obligation or agreement contained in the Bonds or in this Series Resolution shall for any reason be held to be in violation of law, then such covenant, stipulation, obligation or agreement shall be deemed to be the covenant, stipulation, obligation or agreement of the University to the full extent permitted by law.

Section 6.6 <u>Effective Date of this Series Resolution</u>. This Series Resolution shall become effective subsequent to its adoption by the Board on the date as determined by an Authorized Officer of the University, any of whom may act, which shall be no earlier than the effective date of the Master Resolution.

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No.		

UNITED STATES OF AMERICA COMMONWEALTH OF VIRGINIA

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

UNIVERSITY SERVICES SYSTEM AND GENERAL REVENUE PLEDGE BOND, SERIES 2015C

INTEREST RATE	MATURITY DATE	DATED DATE	CUSIP
	June 1,	October, 2015	
REGISTERED OWNER:			
PRINCIPAL AMOUNT:		DOLLARS	S (\$)

Virginia Polytechnic Institute and State University (the "University"), the educational institution at Blacksburg, Virginia, for value received, hereby promises to pay, solely from the funds provided therefor as hereinafter set forth, to the registered owner named above, on the maturity date set forth above (or earlier as hereinafter set forth), upon the presentation and surrender hereof, the principal sum set forth above and to pay, solely from said funds, interest thereon from the date hereof at the rate per annum set forth above, until payment of said principal sum. Both the principal of and the interest on this Bond are payable in any coin or currency of the United States of America which on the respective dates of payment thereof is legal tender for the payment of public and private debts. The principal or redemption price of this Bond shall be payable, upon surrender of this Bond, at the office of The Bank of New York Mellon Trust Company, N.A., Pittsburgh, Pennsylvania, as Paying Agent (the "Paying Agent"), or at the designated corporate trust office of any successor Paying Agent appointed pursuant to the Series Resolution (hereinafter defined). Payment of interest on this Bond shall be made by check or draft mailed on the Interest Payment Date to the registered owner as of the close of business on the 15th day of the month immediately preceding such Interest Payment Date (the "Record Date") at his address as it appears on the registration books of The Bank of New York Mellon Trust Company, N.A., Pittsburgh, Pennsylvania, as Registrar (the "Registrar"), or any successor Registrar appointed pursuant to the Series Resolution. Notwithstanding the foregoing, if and for so long as Cede & Co. or any other nominee of The Depository Trust Company, New York, New York, is registered owner of all of the Bonds, the principal of and premium, if any, on this Bond shall be paid to Cede & Co. or such other nominee as provided under the Series Resolution. The term "Interest Payment Date" means each December 1 and June 1, commencing June 1, 2016 (unless such date is not a Business Day, in which event payment of interest shall be made on the next succeeding Business Day).

This Bond shall bear interest from the Interest Payment Date next preceding the date on which it is authenticated, unless this Bond is (a) authenticated before the first Interest Payment Date following the initial delivery of the Bonds, in which case it shall bear interest from its dated

date or (b) authenticated upon an Interest Payment Date, in which case it shall bear interest from such Interest Payment Date; provided, however, that if at the time of authentication of this Bond interest is in default, this Bond shall bear interest from the date to which interest has been paid. Interest on this Bond shall be computed on the basis of a 360-day year of twelve 30-day months.

The University shall not be obligated to pay the principal of or interest on this Bond except from the Pledged General Revenues and the Net Revenues of the University's University Services System and other legally available moneys, all as provided in the Resolution hereinafter referred to. This Bond and the interest hereon shall not be deemed to constitute a debt or liability of the Commonwealth of Virginia, legal, moral or otherwise. Neither the Commonwealth of Virginia nor the University shall be obligated to pay the principal of or interest on this Bond or other costs incident thereto except from the sources noted above, and neither the faith and credit nor the taxing power of the Commonwealth of Virginia nor any other revenues or funds of the University are pledged to the payment of the principal of or interest on this Bond or other costs incident thereto.

This Bond is one of a duly authorized issue of Bonds of the University aggregating in principal amount, known as "University Services System and General Revenue Pledge Bonds, Series 2015C" (the "Bonds"), issued under and pursuant to a resolution adopted by the Board of Visitors of the University (the "Board") on August 31, 2015 (the "Master Resolution"), as supplemented by a Series Resolution adopted by the Board on August 31, 2015 (the "Series Resolution") (said Master Resolution, as supplemented, being herein called the "Resolution"). This Bond is issued and the Resolution was adopted under and pursuant to the Constitution and laws of the Commonwealth of Virginia, particularly Chapter 4.10, Title 23, Code of Virginia of 1950, as amended (herein called the "Act") to finance the costs of resurfacing and constructing new infrastructure for the South Recreation Field at the University (the "Project"). Reference is hereby made to the Resolution for the provisions, among others, with respect to the custody and application of the proceeds of Bonds issued under the Resolution, the collection and disposition of revenues, the funds charged with and pledged to the payment of the interest on and the principal of the Bonds, the nature and extent of the security, the terms and conditions on which the Bonds are or may be issued, the rights, duties and obligations of the University and the rights of the holders of the Bonds. Capitalized terms not defined herein shall be as defined in the Resolution. By the acceptance of this Bond, the holder hereof assents to all of the provisions of the Resolution.

The Resolution provides for the issuance from time to time, under the conditions, limitations and restrictions set forth therein, of additional series of bonds on a parity with the Bonds.

The Bonds maturing on or after June 1, 20__ are subject to optional redemption by the University on or after June 1, 20__ in whole or in part at any time (in any integral multiple of \$5,000) at the redemption prices (expressed as percentages of principal amount of Bonds to be redeemed) set forth below plus accrued interest to the redemption date:

Redemption Period		<u>Price</u>
June 1, 20_	_ through May 31, 20	%

The Bonds maturing on June 1, 20__ are subject to mandatory sinking fund redemption prior to maturity, on each June 1 of the following years in the following principal amounts at a redemption price equal to 100% of the principal amount thereof, plus accrued interest to the redemption date:

<u>Year</u>	Am	<u>ount</u>
20	\$	
20		
20		
20		
20		
20		
20 (Fina	l Maturity)	

The Bonds are also subject to redemption in whole or in part on any date, at the option of the University, from the proceeds of casualty insurance or condemnation awards, at a redemption price equal to 100% of the principal amount thereof to be redeemed, without premium, plus accrued interest to the redemption date, if all or any part of the Project is damaged, destroyed or taken through the exercise of the power of eminent domain and the University has determined not to use such proceeds to replace or rebuild the damaged, destroyed or taken property. In the event of a redemption in part pursuant to this paragraph, the University shall redeem the Bonds from each maturity then outstanding, to the extent practicable, in the proportion that the principal amount of the Bonds of such maturity bears to the total principal amount of the Bonds then outstanding.

Subject to applicable procedures of the Securities Depository while the Bonds are held in book-entry only form by the Securities Depository, and except as otherwise provided in the case of extraordinary redemption of the Bonds in accordance with the preceding paragraph, if less than all of the Bonds are to be redeemed, the Bonds (or portions of Bonds) to be redeemed shall be selected by the University in such manner as the University in its discretion may determine.

This Bond is transferable by the registered owner, in person or by its attorney duly authorized in writing, at the designated office of the Registrar, upon presentation of a written instrument of transfer and surrender of this Bond to the Registrar for cancellation. Upon the transfer, a new Bond or Bonds of the same aggregate principal amount, maturity date and interest rate will be issued to the transferee. No transfer will be effective unless represented by such surrender and reissue. This Bond may also be exchanged at the designated office of the Registrar for a new Bond or Bonds of the same aggregate principal amount, maturity date and interest rate without transfer to a new registered owner. Exchanges and transfers will be without expense to the holder except for applicable taxes or other governmental charges, if any. The Registrar shall not be required to transfer or exchange any Bond selected or called for redemption pursuant to the provisions hereof or from a Record Date through the next succeeding

Interest Payment Date. All Bonds delivered in exchange or transfer shall be dated so that neither gain nor loss results from the transfer or exchange.

The University, the Paying Agent and the Registrar may treat the registered owner as the absolute owner of this Bond for all purposes, notwithstanding any notice to the contrary.

Neither the members of the Board nor any person executing this Bond are liable personally hereon or subject to any personal liability or accountability by reason of the issuance hereof.

This Bond will not be valid until the Certificate of Authentication has been signed by the Registrar.

The holder of this Bond shall have no right to enforce the provisions of the Resolution or to institute action to enforce the covenants therein, or to take any action with respect to any Event of Default under the Resolution, or to institute, appear in or defend any suit or other proceeding with respect thereto, except as provided in the Resolution.

All acts, conditions and things required by the Constitution and laws of the Commonwealth of Virginia and by the rules and regulations of the Board to happen, exist and be performed precedent to and in the issuance of this Bond have happened, exist and have been performed as so required.

IN WITNESS WHEREOF, Virginia Polytechnic Institute and State University has caused this Bond to be issued in its name and caused this Bond to bear the manual or facsimile signatures of its President and the University's Chief Financial Officer or the University's Treasurer and its official seal to be impressed or imprinted hereon, all as of the dated date hereof.

[SEAL]

[Chief Financial Officer] [Treasurer] of Virginia Polytechnic Institute and State University

President of Virginia Polytechnic Institute and State University

CERTIFICATE OF AUTHENTICATION

This Bond is one of the Bonds described in the within-mentioned Series Resolution.

Date of Authentication:	
, 2015	
	THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., as Registrar
	Authorized Signatory

FORM OF ASSIGNMENT

FOR VALUE RECEIV	ED the undersigned hereby sells, assigns and transfers
(Please print or typewrite name and ad	dress, including zip code, of Transferee)
	SERT SOCIAL SECURITY OR YING NUMBERS OF TRANSFEREE
_	eunder, and hereby irrevocably constitutes and appoints attorney to books kept for registration thereof, with full power of
substitution in the premises. Dated:	
	Registered Owner
	The signature above must correspond to the name of the Registered Owner as it appears on the front of this Bond in every particular, without alteration or enlargement or any change whatsoever.
	Signature Guaranteed
	Notice: Signature(s) must be guaranteed by an approved eligible guarantor institution — an institution which is a participant in a Securities Transfer Association recognized signature guarantee program.

#26374473v2 206702.024

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

AMENDED AND RESTATED RESOLUTION

AUTHORIZING AND SECURING UTILITY SYSTEM REVENUE BONDS

ADOPTED ON AUGUST 31, 2015

EFFECTIVE ON _______, 2015, THE DATE SPECIFIED IN SECTION 13.9

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AN AMENDED AND RESTATED RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY UTILITY SYSTEM REVENUE BONDS; PROVIDING FOR A UTILITY SYSTEM FOR OPERATING AND FINANCING PURPOSES; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF, THE PREMIUM, IF ANY, AND THE INTEREST ON SUCH BONDS THE NET REVENUES OF THE UTILITY SYSTEM AS PROVIDED HEREIN; AND SETTING FORTH THE RIGHTS AND REMEDIES OF THE HOLDERS OF SUCH BONDS.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. On August 26, 1996, the Board adopted a resolution entitled "Resolution Authorizing and Securing Utility System Revenue Bonds" (the "1996 Master Resolution") pursuant to which it formed a single system for the purpose of operating and financing its utility facilities (the "Utility System") with bonds issued under Chapter 3 (§ 23-14 et seq.) of Title 23 (the "General Higher Education Bond Act") subject to the requisite approvals of the General Assembly, the Governor and the Treasury Board of the Commonwealth of Virginia (the "Commonwealth").
- D. Section 10.3 of the 1996 Master Resolution provides that it may be amended and modified by the Board with the consent of the Governor and the Treasury Board of the Commonwealth and the holders of the requisite percentage in aggregate principal amount of bonds then outstanding specified therein. There are currently no bonds issued and outstanding under the 1996 Master Resolution.
- G. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project, and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to the General Higher Education Bond Act.

- H. As provided in Section 23-38.108 of the Act, bonds issued by the University pursuant thereto may be payable as to principal and interest from, among other sources, any or all of (1) its revenues generally, (2) income and revenues derived from the operation of a particular project or projects, whether or not they are financed or refinanced from the proceeds of such bonds, or (3) other available funds of the University.
- I. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to the General Higher Education Bond Act.
- J. The Act is silent on certain rights typically afforded to the holders of bonds issued by institutions of higher education and permits the University to determine those rights. It is the intent of the University that the holders of the Bonds shall have rights comparable to those provided to the holders of bonds issued under the General Higher Education Bond Act pursuant to Sections 23-20 and 23-26 of the Code of Virginia of 1950, as amended.
- K. The Board has determined not to issue any additional bonds under the 1996 Master Resolution and to amend, supplement and restate in its entirety the 1996 Master Resolution all in the manner hereinafter set forth with the consent of the Governor and Treasury Board of the Commonwealth, for the purpose of maintaining a single system for the operation and financing of its existing utility facilities originally established pursuant to the 1996 Master Resolution and any additional utility facilities financed or refinanced with Bonds issued under this Resolution while (1) providing additional operational flexibility for the utility system not contemplated by the 1996 Master Resolution and (2) facilitating the issuance of Bonds and setting forth the rights of the holders thereof without oversight from the General Assembly, the Governor and the Treasury Board required by the General Higher Education Bond Act and the 1996 Master Resolution, but no longer applicable by the terms of the Act.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF VISITORS OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY:

ARTICLE I

DEFINITIONS

Section 1.1 <u>Definitions</u>. In addition to words and terms defined in the Recitals and elsewhere in this Resolution, the following words and terms as used in this Resolution shall have the following meanings, unless some other meaning is plainly intended:

"Additional Facilities" shall mean any additional utility or other facilities or any part thereof and any additions, extensions and improvements to the System, which are financed or refinanced under the provisions of this Resolution, or the revenues from which have been added to Revenues pursuant to the provisions of Section 7.1.

"Annual Budget" shall mean the University's budget of Current Expenses of the System for a Fiscal Year adopted by the Board pursuant to the provisions of Section 5.5. The Board may

consider the Annual Budget for the System as a separate budget or as a separate and identifiable component of the overall University budget.

"Authorized Officer" shall mean (i) in the case of the University, the President of the University, the Chief Financial Officer or the University Treasurer and, when used with reference to any act or document also means any other person authorized by appropriate action of the Board to perform such act or execute such document on behalf of the University; and (ii) in the case of the Paying Agent or the Custodian (if not the State Treasurer), the President, any Vice-President, any Assistant Vice-President, any Corporate Trust Officer or any Assistant Corporate Trust Officer of the Paying Agent or the Custodian, and when used with reference to any act or document also means any other person authorized to perform such act or execute such document by or pursuant to a resolution of the governing body of the Paying Agent or the Custodian.

"Balloon Bond" shall mean any Bond, 25% or more of the original principal amount of which matures during any consecutive 12 month period, if such maturing principal amount is not required to be amortized below such percentage by mandatory redemption or prepayment before such twelve-month period. Balloon Bond does not include any Bond that otherwise would be classified hereunder as a Put Bond.

"Board" shall mean the Board of Visitors of the University or, if said Board shall be abolished, the board or body succeeding to the principal functions thereof.

"Bond Counsel" shall mean any firm of attorneys selected by the University and experienced in the issuance of municipal bonds and matters relating to the exclusion of the interest thereon from gross income for federal income tax purposes, which may be an attorney or firm regularly providing services to the University, the Paying Agent, the Underwriters or any Bondholder.

"Bondholder," "Holder" or "holder" when used herein with respect to Bonds issued hereunder shall mean the holder or registered owner, as the case may be, of Bonds at the time issued and outstanding hereunder.

"Bonds" shall mean the bonds authorized under and secured by this Resolution.

"Business Day" shall mean a day other than (i) a Saturday, Sunday or other day on which banking institutions in the Commonwealth or the city in which the Designated Office of the Paying Agent is located are authorized or required by law to close or (ii) a day on which the New York Stock Exchange is closed.

"Chief Financial Officer" shall mean the University's chief financial officer, or such other officer of the University having similar duties as may be selected by the Board.

"Code" shall mean the Internal Revenue Code of 1986, as amended. Each citation to a Code section shall include the applicable temporary, proposed and permanent regulations, revenue rulings and revenue procedures.

"Commonwealth" shall mean the Commonwealth of Virginia.

"Construction Fund" shall mean the Virginia Polytechnic Institute and State University Utility System Construction Fund, a special fund created and designated by Section 4.1.

"Cost," as applied to a Project, shall embrace the cost of building, constructing, reconstructing, erecting, extending, bettering, equipping and improving a Project and all obligations and expenses and all items of cost which are set forth in Section 4.2.

"Credit Facility Agreement" shall mean an irrevocable letter of credit, insurance policy, guaranty or surety bond providing for the payment of or guarantying the payment of principal and purchase price of and interest on Bonds when due.

"Credit Obligation" of the University shall mean any indebtedness incurred or assumed by the University for borrowed money and any other financing obligation of the University that, in accordance with generally accepted accounting principles consistently applied, is shown on the liability side of a balance sheet; provided, however, that Credit Obligation shall not include any portion of any capitalized lease payment directly appropriated from general funds of the Commonwealth or reasonably expected to be so appropriated as certified by the Chief Financial Officer or the University Treasurer, but only to the extent such appropriation is restricted by the Commonwealth to the payment of such capitalized lease obligation. Credit Obligation shall not include any Interest Rate Agreement.

"Current Expenses" shall mean the University's reasonable and necessary current expenses of maintenance, repair and operation of the System and shall include, without limiting the generality of the foregoing, all ordinary and usual expenses of maintenance, repair and operation, which may include expenses not annually recurring, premiums for insurance, all administrative, engineering and architectural expenses relating to maintenance, repair and operation, legal expenses, any reasonable payments to pension or retirement funds, and any other expenses required or permitted to be paid by the University under the provisions of this Resolution or by law, but shall not include any reserves for extraordinary maintenance or repair, any allowance for depreciation, or any general administrative expenses of the University not attributable to the System, or any debt service amounts or other amounts payable on the Bonds, Parity Indebtedness, Parity Swap Obligations or Subordinate Obligations.

"Custodian" shall mean The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and its successors, or such other bank or financial institution designated by the University to hold funds under this Resolution.

"Debt Service Fund" shall mean the Virginia Polytechnic Institute and State University Utility System Debt Service Fund, a special fund created and designated by Section 5.7.

"Designated Office" shall mean, when used in reference to the Paying Agent, the corporate trust office of the Paying Agent designated as such, which shall initially be 525 William Penn Place, 38th Floor, Pittsburgh, Pennsylvania 15259.

"Excluded Facilities" shall mean any Existing Facilities or Additional Facilities the revenues from which have been excluded from Revenues pursuant to the provisions of Section 7.1.

"Existing Facilities" shall mean the utility facilities owned and/or operated by the University as of August 31, 2015, which are currently included in the University's Utility System.

"Fiscal Year" shall mean the period commencing on the first day of July in any year and ending on the last day of June of the following year.

"Hedge Provider" shall mean the counterparty to any Interest Rate Agreement to which the University is a party.

"Interest Rate Agreement" shall mean an interest rate exchange, hedge or similar agreement, expressly identified in a certificate of an Authorized Officer of the University, executed at the settlement date therefor or effective date thereof and kept with the University's executed copy of the agreement, as being or as having been entered into in order to hedge the interest payable on all or a portion of any Credit Obligation, which agreement may include, without limitation, an interest rate swap, a forward or futures contract or an option (e.g. a call, put, cap, floor or collar) and which agreement does not constitute an obligation to repay money borrowed, credit extended or the equivalent thereof. An Interest Rate Agreement does not constitute a Credit Obligation hereunder.

"Net Revenues" for any particular period, shall mean the amount of the excess of the total of the amounts deposited into the Revenue Fund pursuant to Section 5.3 over the total of the Current Expenses for the System during such period.

"Parity Indebtedness" shall mean any Credit Obligation of the University which currently exists or which may be incurred in accordance with the terms of this Resolution that is secured on a parity with the pledge of Revenues herein.

"Parity Interest Rate Agreement" shall mean any Interest Rate Agreement, any portion of the payments by the University under which is on a parity as to right to payment from Revenues, and is equally and ratably secured by a pledge of such Revenues, with the holders of all Bonds issued under this Resolution.

"Parity Swap Obligations" shall mean the amounts payable by the University to the Hedge Provider pursuant to a Parity Interest Rate Agreement that, as specified in the Parity Interest Rate Agreement, are on a parity as to right to payment from Revenues, and are equally and ratably secured by a pledge of such Revenues, with the holders of all Bonds issued under this Resolution.

"Paying Agent" shall mean initially The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and its successors and any other corporation that may at any time be substituted in its place in accordance with Section 13.2 of this Resolution.

"Principal and Interest Requirements" shall mean the aggregate of the principal of (whether at maturity, by mandatory redemption or mandatory prepayment or acceleration) and interest on all outstanding Bonds payable during a particular Fiscal Year; provided that the

amount of such payments shall be calculated in accordance with the assumptions set forth in Section 7.16.

"Project" shall mean the building, construction, reconstruction, execution, extension, betterment, equipping and improvement of any portion of the System, including Additional Facilities, as more particularly described in each Series Resolution.

"Put Bond" shall mean any Bond that is (i) payable or required to be purchased by or on behalf of the underlying obligor, at its owner's option, before its stated maturity date or (ii) payable or required to be purchased from the owner by or on behalf of the underlying obligor (other than at the owner's option) before its stated maturity date.

"Registrar" shall mean initially The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and any successor Registrar appointed pursuant to Section 13.2 of this Resolution.

"Reserve Fund" shall mean the Virginia Polytechnic Institute and State University Utility System Reserve Fund, a special fund created and designated by Section 5.9.

"Reserve Fund Credit Facility Agreement" shall mean an irrevocable letter of credit, insurance policy, guaranty or surety bond providing for the deposit of or guarantying the deposit of the Reserve Fund Requirement with respect to a Series of Bonds into the Reserve Fund if the moneys held to the credit of the Debt Service Fund shall be insufficient for its purposes.

"Reserve Fund Requirement" shall mean with respect to a Series of Bonds an amount equal to the least of (i) the maximum Principal and Interest Requirement of such Series of Bonds for any Fiscal Year; (ii) 10% of the original proceeds (excluding accrued interest) of such Series of Bonds; and (iii) 125% of the average annual Principal and Interest Requirement of such Series of Bonds.

"Resolution" shall mean this Resolution, together with any Series Resolution and all other resolutions supplemental hereto as herein permitted.

"Revenue Fund" shall mean the Virginia Polytechnic Institute and State University Utility System Revenue Fund, a special fund created and designated by Section 5.3.

"Revenues" for any particular period, shall mean the fees, rents and charges and other revenues derived by the University from its operation and ownership of the System during such period and deposited to the credit of the Revenue Fund pursuant to the provisions of Section 5.3, any additions to Revenues made pursuant to the provisions of Section 7.1, and any transfers to, and less any transfers from, the Revenue Fund pursuant to the provisions of Section 6.2, but shall not include (i) any moneys deposited or transferred to the credit of the Reserve Fund pursuant to the provisions of Section 5.9, or (ii) any revenues excluded from Revenues pursuant to the provisions of Section 7.1.

"Series," whenever used herein with respect to Bonds, shall mean all of the Bonds designated as being of the same series, authenticated and delivered in a simultaneous transaction,

regardless of variations in maturity, interest rate, redemption and other provisions, and any Bonds thereafter authenticated and delivered upon transfer or exchange of or in lieu of or in substitution for (but not to refund) such Bonds as herein provided.

"Series Resolution" shall mean the resolution of the Board under which Bonds of any Series are or will be issued.

"State Treasurer" shall mean the State Treasurer of the Commonwealth.

"Subordinate Obligations" shall mean any obligations, whether or not Credit Obligations, issued or incurred by the University, including obligations under bonds, notes or Interest Rate Agreements, which are payable from the Net Revenues of the System subordinate and junior to the Bonds.

"Surplus Fund" shall mean the Virginia Polytechnic Institute and State University Utility System Surplus Fund, a special fund created and designated by Section 5.4.

"System" shall mean the Existing Facilities and Additional Facilities, but shall not include any Excluded Facilities.

"University" shall mean Virginia Polytechnic Institute and State University, Blacksburg, Virginia, an educational institution and a public body and governmental instrumentality for the dissemination of education, and its successor or successors.

"Variable Rate Bond" means any Bond the interest rate on which is not established at the time of incurrence at a fixed or constant rate.

Section 1.2 <u>Rules of Construction/Use of Words and Phrases</u>. Words of the masculine gender shall be deemed and construed to include correlative words of the feminine and neuter genders. Unless the context shall otherwise indicate, the word "person" shall include corporations and associations, including public bodies, as well as natural persons. Singular words shall connote the plural number as well as the singular and vice versa.

All references in the Resolution to particular Articles or Sections are references to Articles or Sections of the Resolution unless otherwise indicated.

The headings and table of contents as used in the Resolution are solely for convenience of reference and shall not constitute a part of the Resolution nor shall they affect its meaning, construction or effect.

ARTICLE II

FORM, EXECUTION, DELIVERY AND REGISTRATION OF BONDS

Section 2.1 <u>Authorization of Bonds</u>. For the purpose of providing funds for paying the Cost of Projects permitted under the Act, there shall be issued, under the authority of the Act, Bonds of the University subject to the conditions hereinafter provided in Section 2.10. Except as otherwise provided in this Resolution, the principal of and the interest on all Bonds issued under the provisions of this Resolution shall be payable solely from the Debt Service Fund, and all of the covenants, agreements and provisions of this Resolution shall be for the benefit and security of all and singular the present and future holders of the Bonds issued and to be issued under this Resolution, without preference, priority or distinction as to lien or otherwise, except as otherwise hereinafter provided, of any one Bond over any other Bond by reason of priority in the issue, sale or negotiation thereof or otherwise.

Section 2.2 <u>Details of Bonds</u>. The definitive Bonds issued under the provisions of Section 2.10 shall be as permitted or required by the respective Series Resolution providing for the issuance of Bonds of any Series. All such Bonds may have endorsed thereon such legends or text as may be necessary or appropriate to conform to any applicable rules and regulations of any governmental authority or any usage or requirement of law with respect thereto.

The Bonds authorized hereunder may be issued in one or more Series that may be delivered from time to time. The University shall by Series Resolution authorize such Series and shall specify the following: the authorized principal amount of such Series; the purpose for which the Bonds are being issued; the date and terms of maturity or maturities of the Bonds of such Series, or the payment of the Bonds on the demand of the holder; the interest payment dates and the interest rate or rates on the Bonds of such Series, which may include variable, adjustable, convertible or other rates, original issue discounts and zero interest rate bonds, provided that the average net interest cost rate on such Series shall never exceed for such Series the maximum interest rate permitted by law in effect at the time such Series are issued; the denominations, numbering, lettering and series designation of such Series of Bonds; the place or places of payment of such Bonds; the redemption prices for such Series of Bonds and any terms of redemption not inconsistent with the provisions of this Resolution which may include mandatory redemption at the election of the holder or registered owner thereof; the amount and date of each mandatory redemption requirement, if any, for such Series of Bonds; the use of proceeds of such Series of Bonds, including deposits required to be made into the Construction Fund and Reserve Fund, if any; any additional revenues of the University besides the Net Revenues of the System pledged to secure such Series of Bonds; and any other terms or provisions applicable to the Series of Bonds, not inconsistent with the provisions of this Resolution or the Act. All of the foregoing may be added by Series Resolutions adopted at any time and from time to time prior to the issuance of such Series of Bonds.

All Bonds shall be in registered form, shall be payable in lawful money of the United States of America and shall bear interest from the date specified in the Series Resolution which shall be payable by mail or wire, as provided in the Series Resolution, to the registered owner

thereof. In addition, if and to the extent permitted by applicable law, the University may issue any or all Series of Bonds as certificated registered public obligations (represented by instruments) or as uncertificated registered public obligations (not represented by instruments) commonly known as book-entry obligations, combinations thereof, or such other obligations as may then be permitted by law. The University shall establish a system of registration and shall appoint such registrars, transfer agents, depositaries or other agents as may be necessary to cause the registration, registration of transfer and reissuance of the Bonds within a commercially reasonable time according to the then current industry standards and to cause the timely payment of interest, principal and premium payable with respect to the Bonds. Any such system may be effective for any Series then outstanding or to be subsequently issued, provided that if the University adopts a system for the issuance of uncertificated registered public obligations, it may permit thereunder the conversion, at the option of a holder of any Bond then outstanding, of a certificated registered public obligation to an uncertificated registered public obligation, and the reconversion of the same.

The form of Bonds may provide that the holder of any such Bond may demand payment of principal and interest from the University within a stated period after delivering notice to a designated agent for the University and providing a copy of the notice with the tender of the Bond to such agent. The designated agent for the University, in accordance with the terms of a remarketing or replacement agreement, may provide for the resale or redelivery of the Bonds on behalf of the University at a price provided for in the agreement in lieu of payment by the University on demand. If the Bonds shall not be resold or redelivered within a stated period, the agent for the University may be authorized to draw upon a previously executed Credit Facility Agreement between the University and one or more banks or other financial or lending institutions permitting the University to borrow interest and principal for payment upon a particular Series of Bonds to which such Credit Facility Agreement shall pertain. The particular form or forms of such demand provisions, the period or periods for payment of principal and interest after delivery of notice, the appointment of the agent for the University, the terms and provisions of the remarketing or replacement agreement, and the terms and provisions of the Credit Facility Agreement shall be as designated by a Series Resolution of the University pertaining to each Series of Bonds to which such terms and provisions are applicable, prior to the sale thereof.

The principal of, premium, if any, and the interest on the Bonds shall be payable in any coin or currency of the United States of America which on the respective dates of payment thereof is legal tender for the payment of public and private debts. The principal of the Bonds of each Series shall be payable at the Designated Office or Offices of the Paying Agent, designated in the resolution of the Board awarding the Bonds of such Series, or at the office of the State Treasurer, in the City of Richmond, Virginia or both, as provided in the Series Resolutions. Interest on the Bonds to the respective maturities thereof shall be paid by check or draft mailed, or wire transfer made, by the Paying Agent to the registered owners thereof on the appropriate record date, as set forth in the Series Resolution.

Section 2.3 <u>Form of Bonds</u>. The Bonds issued hereunder shall be in the form set forth in the respective Series Resolution.

Section 2.4 Execution of Bonds. The Bonds shall be executed in the name and on behalf of the University by its President and its Chief Financial Officer or its Treasurer, and the official seal of the University shall be imprinted, reproduced or lithographed on the Bonds. The signatures on the Bonds may be by facsimile, but one such officer shall sign his manual signature on the Bonds unless the Registrar shall be authorized and directed to cause one of its duly authorized signatories to manually execute the Bonds. In case any of the officers who shall have signed or attested any of the Bonds shall cease to be such officer or officers of the University before the Bonds so signed or attested shall have been authenticated or delivered by the Registrar or issued by the University, such Bonds may nevertheless be authenticated, delivered and issued and, upon such authentication, delivery and issue, shall be as binding upon the University as though those who signed and attested the same had continued to be such officers of the University. Any Bond may be signed and attested on behalf of the University by such persons as at the actual date of execution of such Bond shall be the proper officers of the University although at the nominal date of such Bond any such person shall not have been such officer of the University.

Only such of the Bonds as shall bear thereon a certificate of authentication, manually executed by the Registrar, shall be valid or obligatory for any purpose or entitled to the benefits of this Resolution, and such certificate of the Registrar shall be conclusive evidence that the Bonds so authenticated have been duly executed, authenticated and delivered hereunder and are entitled to the benefits of this Resolution.

Section 2.5 Transfer of Bonds. Any Bond may, in accordance with its terms, be transferred, upon the books required to be kept pursuant to the provisions of Section 2.7 by the person in whose name it is registered, in person or by his duly authorized attorney, upon surrender of such Bond for cancellation, accompanied by delivery of a written instrument of transfer, duly executed in a form approved by the Registrar.

Whenever any Bond or Bonds shall be surrendered for registration of transfer, the University shall execute and the Registrar shall authenticate and deliver a new Bond or Bonds, of authorized denominations of the same Series, maturity, interest rate and for a like aggregate principal amount. Such transfer shall be without charge to the holder, except that the Registrar shall require the Bondholder requesting such transfer to pay any tax or other governmental charge required to be paid with respect to such transfer.

Section 2.6 Exchange of Bonds. Bonds may be exchanged at the designated office of the Registrar for a like aggregate principal amount of Bonds of other authorized denominations of the same Series, maturity and interest rate. Such exchange shall be without charge to the holder, except that the Registrar shall require the Bondholder requesting such exchange to pay any tax or other governmental charge required to be paid with respect to such exchange.

Section 2.7 Bond Register; Notices. The Registrar will keep or cause to be kept, at its designated office sufficient books for the registration and transfer of the Bonds, which shall at all times during regular business hours be open to inspection by the University and the Paying Agent; and, upon presentation for such purpose, the Registrar shall, under such reasonable regulations as it may prescribe, register or cause to be registered, on such books, the transfer or

exchange of Bonds as hereinbefore provided. No registration of transfer of a Bond shall be required to be made from a record date to the next succeeding interest payment date or if a Bond shall have been selected or called for redemption. No exchange of a Bond shall be required to be made from a record date to the next succeeding interest payment date or if a Bond shall have been selected or called for redemption. Notices sent to Bondholders pursuant to this Resolution shall be sent to the addresses shown on the registration books maintained by the Registrar or such other address as may be filed with the Registrar for such purpose. All notices required to be given by mail shall be given by first class mail, postage prepaid.

In addition to the other obligations imposed on the Registrar hereunder, the Registrar shall agree to deliver upon request a list of the names and addresses of the registered owners of the Bonds, as follows:

- (a) to any Bondholder, if an Event of Default shall have occurred and be continuing;
- (b) to the Paying Agent, the University or the provider of a Reserve Fund Credit Facility Agreement or Credit Facility Agreement, at any time; and
- (c) to the registered holders of 25% or more in aggregate principal amount of Bonds then outstanding, at any time.

Section 2.8 Temporary Bonds. The Bonds may be issued in temporary form exchangeable for definitive Bonds when ready for delivery. Any temporary Bond may be printed, lithographed or typewritten, shall be of such denomination as may be determined by the University and may contain such reference to any of the provisions of this Resolution as may be appropriate. A temporary Bond may be in the form of a single Bond payable in installments, each on the date, in the amount and at the rate of interest established for the Bonds maturing on such date. Every temporary Bond shall be executed by the University and be authenticated by the Registrar upon the same conditions and in substantially the same manner as the definitive Bonds. If the University issues temporary Bonds it will execute and deliver definitive Bonds as promptly thereafter as practicable, and thereupon the temporary Bonds may be surrendered, for cancellation, in exchange therefor at the designated office of the Registrar and the Registrar shall authenticate and deliver in exchange for such temporary Bonds an equal aggregate principal amount of definitive Bonds of authorized denominations of the same maturity or maturities and interest rate. Until so exchanged, the temporary Bonds shall be entitled to the same benefits under this Resolution as definitive Bonds authenticated and delivered hereunder.

Section 2.9 Bonds Mutilated, Lost, Destroyed or Stolen. If any Bond shall become mutilated, the University, at the expense of the owner of said Bond, shall execute, and the Registrar shall thereupon authenticate and deliver, a new Bond of like tenor bearing a different number in exchange and substitution for the Bond so mutilated, but only upon surrender to the Registrar of the Bond so mutilated. Every mutilated Bond so surrendered to the Registrar shall be canceled by it and delivered to, or upon the order of, the University. If any Bond shall be lost, destroyed or stolen, evidence of the ownership thereof and of such loss, destruction or theft may be submitted to the University and the Registrar and, if such evidence be satisfactory to

both of them and indemnity satisfactory to them shall be given, the University, at the expense of the owner, shall execute, and the Registrar shall thereupon authenticate and deliver, a new Bond of like tenor bearing a different number in lieu of and in substitution for the Bond so lost, destroyed or stolen (or if any such Bond shall have matured or shall be about to mature, instead of issuing a substitute Bond, the University may pay the same without surrender thereof). The University may require payment of a sum not exceeding the actual cost of preparing each new Bond issued under this Section and of the related expenses which may be incurred by the University, the Registrar and the Paying Agent. Any Bond issued under the provisions of this Section in lieu of any Bond alleged to be lost, destroyed or stolen shall constitute an original additional contractual obligation on the part of the University whether or not the Bond so alleged to be lost, destroyed or stolen be at any time enforceable by anyone, and shall be entitled to the benefits of this Resolution with all other Bonds secured by this Resolution.

Section 2.10 <u>Terms and Conditions for Issuance of Bonds</u>. Bonds of the University may be issued under and secured by this Resolution, subject to the conditions hereinafter provided in this Section, from time to time for the purpose of providing funds for paying all or any part of the Cost of the System, including any Additional Facilities, or for the purpose of refunding any Bonds, or other obligations of the University or portions thereof issued to finance University utility facilities, then outstanding.

Before any Bonds shall be issued under the provisions of this Section, the Board shall adopt a Series Resolution authorizing the issuance of such Bonds. The Bonds of each Series issued under the provisions of this Section shall be designated "Utility System Revenue Bonds, " (with appropriate modifications designated by the University to reflect additional pledged revenues, credit enhancement, variable interest rates or the like), shall be numbered, shall be dated, shall bear interest at a rate or rates not exceeding the maximum rate then permitted by law, shall be stated to mature on the date or dates specified therein, and shall be made redeemable at such times and prices (subject to the provisions of Article III of this Resolution), all as may be provided by the Series Resolution authorizing the issuance of such Bonds. Except as to any differences in the maturities thereof or in the rate or rates of interest or the provisions for redemption or the provisions regarding the Reserve Fund or the pledge of additional revenues of the University besides the Net Revenues of the System, all such Bonds shall be on a parity with and shall be entitled to the same benefit and security of this Resolution. Such Bonds shall be executed in the form and manner hereinabove set forth and shall be deposited with the Registrar for delivery, but before Bonds shall be delivered by the Registrar, there shall be filed with the Registrar the following:

- (a) a copy, certified by the Secretary of the Board, of the Series Resolution mentioned above;
- (b) a copy, certified by the Secretary of the Board, of the resolution adopted by the Board awarding such Bonds, specifying the interest rate (or method or parameters for computing such interest rate) for each of such Bonds and the deposit, if any, to the Reserve Fund to secure such Bonds, and directing the delivery of such Bonds to or upon the order of the purchasers named therein upon payment of the specified purchase price;

- (c) if the Bonds are being issued to pay the Cost of a Project, a statement, signed by an Authorized Officer, certifying that (i) the Project described in the Series Resolution authorizing the issuance of such Bonds will, in his or her opinion, preserve, develop, extend or improve the System, and (ii) taking into account the issuance of such Bonds the University expects to have sufficient Net Revenues of the System and other available funds to meet its obligations to pay principal and interest and other amounts, as and when due and payable in accordance with their terms, on all Bonds issued under this Resolution and all Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such Bonds and (B) the completion of all Projects financed with the proceeds of such Bonds, and (iii) such Authorized Officer has no reason to believe that Net Revenues of the System and other available funds will not be sufficient to pay all amounts, as and when due and payable in accordance with their terms, on all Bonds issued under this Resolution and all Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations during the term of such Bonds;
- (d) a certificate, signed by an Authorized Officer, stating that to the best of his or her knowledge the University is not then in default in the performance and observance of any of the covenants, conditions, agreements or provisions contained in this Resolution; and
- (e) an opinion of Bond Counsel stating that the Bonds have been duly authorized, executed and delivered in accordance with the Act and this Resolution and constitute valid and binding limited obligations of the University, payable solely from the Net Revenues of the System and other property and revenues pledged therefor under this Resolution or the Series Resolution.

When the documents mentioned above in this Section shall have been filed with the Registrar and when the Bonds described in the resolutions mentioned in clauses (a) and (b) of this Section shall have been executed as required by this Resolution, the Registrar shall deliver such Bonds to or upon the order of the purchasers named in the resolution mentioned in clause (b), but only upon payment to the Custodian of the purchase price of such Bonds. The Registrar shall be entitled to rely upon such resolution as to the names of the purchasers, the interest rate of each of such Bonds and the amount of such purchase price.

The provisions of clause (c) above of this Section 2.10 shall not apply to the first Series of Bonds issued hereunder.

The proceeds (excluding accrued interest) of such Bonds shall be deposited to the credit of the Construction Fund and applied to the payment of the Cost of such Project, except if the Bonds or a portion thereof are being issued to reimburse the University for Costs of the Project previously incurred by the University or to refund Bonds or other University obligations then outstanding, in which case such portion of the proceeds shall be paid to or on account of the University. If such Bonds are to be secured by the Reserve Fund, prior to such deposit to the Construction Fund or payment to or for the account of the University, the Custodian shall deduct

from such proceeds and deposit to the credit of the Reserve Fund the amount, if any, to be so deposited as set forth in the Series Resolution for such Bonds.

If Bonds are issued for the purpose of refunding any or all of the Bonds or other University obligations then outstanding, the requirements set forth in clause (c)(i) above of this Section 2.10 shall not apply.

The amount received as accrued interest on such Bonds shall be deposited to the credit of the Debt Service Fund.

- **Section 2.11** Additional Indebtedness. The University may incur or issue other Credit Obligations payable from or secured by Net Revenues of the System only if the conditions set forth below in subsection (a), (b), (c) or (d) are met in each instance:
 - (a) <u>Section 9(c) Credit Obligations</u>. Notwithstanding any provision of this Resolution, any Credit Obligation issued by or on behalf of the University pursuant to Article X, Section 9(c) of the Constitution of Virginia, as such section may be amended from time to time, that is secured by a pledge of all or any portion of the Net Revenues shall without further action (including any action required pursuant to Section 2.10 or Section 2.11(b)) automatically be deemed to be Parity Indebtedness secured on a parity basis with all Bonds issued pursuant to this Resolution, unless expressly subordinated to the pledge of Net Revenues herein.
 - Limitation on Other Parity Indebtedness. The University may incur, assume, guarantee or otherwise become liable on any other Parity Indebtedness, including any Credit Obligation incurred pursuant to the provisions of Article X, Section 9(d) of the Constitution of Virginia, as such section may be amended from time to time, but only if, prior to the incurrence of such Parity Indebtedness, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Parity Indebtedness (i) the University expects to have sufficient Net Revenues of the System and other available funds to meet its obligations to pay principal and interest and other amounts, as and when due and payable in accordance with their terms, on all Credit Obligations and Parity Swap Obligations secured by a pledge of such Net Revenues for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such Parity Indebtedness and (B) the completion of any facility financed with the proceeds of such Parity Indebtedness, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable in accordance with their terms, under all indebtedness and Interest Rate Agreements of the University secured by a pledge of such Net Revenues during the term of such proposed Parity Indebtedness, and (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of this Resolution. Any such Parity Indebtedness shall be designated by the University as Parity Indebtedness and shall be secured by a pledge of Net Revenues of the System on a parity with the pledge of Net Revenues of the System herein, unless expressly subordinated to the pledge hereof.

- (c) <u>Limitation on Issuance of Parity Indebtedness</u>. Except for Credit Obligations issued or incurred pursuant to subsections (a) or (b) above or to refund any Parity Indebtedness and other Bonds issued pursuant to Section 2.10, no additional bonds or other obligations may be issued or incurred by the University on a parity with any Bonds as to payment from Net Revenues of the System.
- (d) <u>Subordinate Obligations</u>. The University may issue Subordinate Obligations without restriction so long as they are payable from and secured by a pledge of the Net Revenues of the System junior and subordinate in all respects to the liens, pledges, covenants and agreements of this Resolution relating to the Net Revenues of the System for the benefit of holders of the Bonds.
- Section 2.12 Parity Interest Rate Agreements. The University may enter into Parity Interest Rate Agreements pursuant to which regularly scheduled payments thereon are on a parity with the holders of Bonds issued hereunder as to the right to payment from Revenues. Termination payments or any other payments, except regularly scheduled payments, on any Interest Rate Agreement, whether or not a Parity Interest Rate Agreement, must be subordinate to the holders of Bonds issued hereunder as to right of payment from Revenues.

ARTICLE III

REDEMPTION

Section 3.1 Redemption of Bonds. The Bonds of any Series issued under the provisions of this Resolution shall be made subject to redemption, both in whole and in part and at such times and prices, as may be provided in the Series Resolution authorizing the issuance of such Bonds.

If less than all of the Bonds of any one maturity of a Series shall be called for redemption, the particular Bonds to be redeemed from such Series shall be selected in such manner as shall be provided in the Series Resolution.

- **Section 3.2** <u>Redemption Notice</u>. Notice of redemption shall be given as set forth in the Series Resolution for each Series of Bonds.
- Section 3.3 <u>Effect of Calling for Redemption</u>. On the date so designated for redemption, notice having been published or mailed in the manner and under the conditions hereinabove provided and moneys for payment of the redemption price being held in separate accounts by the Paying Agent in trust for the holders of the Bonds to be redeemed, all as provided in this Resolution, the Bonds so called for redemption shall become and be due and payable at the redemption price provided for redemption of such Bonds on such date, interest on the Bonds so called for redemption shall cease to accrue, such Bonds shall cease to be entitled to any benefit or security under this Resolution and the holders or registered owners of such Bonds shall have no rights with respect thereto except to receive payment of the redemption price. Bonds so redeemed shall be canceled upon surrender.

Section 3.4 <u>Bonds Redeemed Not Deemed Outstanding</u>. Bonds which have been duly called for redemption under the provisions of this Article, or with respect to which irrevocable instructions to call for redemption have been given by or on behalf of the University and for the payment of the redemption price of which moneys shall be held in separate accounts by the Paying Agent in trust for the holders of the Bonds to be redeemed, all as provided in this Resolution, shall not thereafter be deemed to be outstanding under the provisions of this Resolution.

ARTICLE IV

CUSTODY AND APPLICATION OF PROCEEDS OF BONDS

- Section 4.1 Construction Fund. The University shall create or cause to be created a fund designated "The Virginia Polytechnic Institute and State University Utility System Construction Fund" (the "Construction Fund") to be administered by the University, to the credit of which there shall be deposited the proceeds of all Bonds required to be so deposited by the Series Resolution authorizing such Bonds. There may also be deposited to the credit of the Construction Fund any moneys received from any other source for paying the Cost of the Project described in such Series Resolution if the University shall have received an opinion of Bond Counsel that such deposit will not cause the interest on the Bonds to be includable in gross income for federal income tax purposes. The moneys in the Construction Fund shall be held in trust and applied to the payment of the Cost of such Project and, pending such application, shall be subject to a lien and charge in favor of the holders of the Bonds issued and outstanding under this Resolution and for the future security of such holders until paid out or transferred as herein provided. Separate accounts may be created in the Construction Fund to hold moneys allocable to different Projects, as may be required by the Series Resolutions.
- **Section 4.2** <u>Items of Cost of Project</u>. For the purposes of this Resolution, the Cost of each Project shall include, without intending thereby to limit or restrict or to extend any proper definition of such Cost under any applicable laws or this Resolution, any or all of the following:
 - (a) obligations incurred for labor and materials and to contractors, builders and materialmen in connection with the Project;
 - (b) the cost of acquiring by purchase, if such purchase shall be deemed expedient, and the amount of any award or final judgment in or any settlement or compromise of any proceeding to acquire by condemnation, such lands, property, rights, rights of way, franchises, easements and other interests as may be deemed necessary or convenient by the Board for the construction and operation of the Project, options and partial payments thereon, and the amount of any damages incident to or consequent upon such construction and operation;
 - (c) the cost of furnishing and equipping the Project;
 - (d) interest on the applicable series of Bonds prior to and during construction of the Project and for one year thereafter;

- (e) taxes or other municipal or governmental charges lawfully levied or assessed during construction of the Project or any property acquired therefor, and premiums on insurance, if any, in connection with the Project during construction; fees and expenses of engineers and architects for surveys and estimates and other preliminary investigations, preparation of plans, drawings and specifications and supervising construction, as well as for the performance of all other duties of engineers and architects in relation to the construction of the Project or the issuance of Bonds therefor;
- (f) expenses of administration properly chargeable to the Project, legal expenses and fees, fees and expenses of consultants, financing charges (including Reserve Fund Credit Facility Agreement and Credit Facility Agreement fees), cost of audits and of preparing and issuing the Bonds, and all other items of expense not elsewhere in this Section specified incident to the construction and equipping of the Project and the placing of the Project in operation; and
- (g) any obligation, including interim financing, or expenses heretofore or hereafter incurred by the University or by any other agency of the Commonwealth in connection with the Project for any of the foregoing purposes.
- Section 4.3 <u>Capitalized and Accrued Interest</u>. The University may set aside from the proceeds of any Bonds issued under this Resolution and deposit to the credit of a separate interest account in the Construction Fund the amount of capitalized interest set forth in a certificate executed by an Authorized Officer of the University and included as a part of the original transcript relating to the issuance of such Bonds. The University may apply the money in such interest account to the payment of interest on such Bonds at such times and in such amounts as set forth in such certificate.
- Section 4.4 Payments from Construction Fund. Payment of the Cost of each Project shall be made from the Construction Fund and other available funds, all as provided by law. All payments from the Construction Fund shall be subject to the provisions and restrictions set forth in this Article, and the Board covenants that it will not cause or permit to be paid from the Construction Fund any sums except in accordance with such provisions and restrictions.

Moneys in the Construction Fund shall be paid out based on invoices received by the University, the amounts stated in such invoices to be necessary for paying items of Cost of each Project.

The University shall maintain written records of withdrawals from the Construction Fund which shall reflect each amount to be paid, the name of the person, firm or corporation to whom each such payment is due and the purpose for which the obligation to be paid was incurred, that the goods or services specified have been received or performed, that payment therefor has not been previously authorized and that the expenditure is a proper charge to the Construction Fund.

Section 4.5 <u>Lands for Project</u>. The Board covenants that no part of the System has been or will be constructed on lands other than lands to which good and marketable title is

owned or can be acquired by the University or the Commonwealth in fee simple unless the University has a perpetual easement over the lands to be used or has acquired a lesser right or interest in such lands which an Authorized Officer has certified will be sufficient for the University's purposes. The University further covenants that any such land will be free from all liens, encumbrances and defects of title except liens, encumbrances or defects of title which do not have a materially adverse effect upon the University's or the Commonwealth's right to use such lands or properties for the purposes intended or which have been adequately guarded by a bond or other form of indemnity.

Section 4.6 <u>Disposition of Balance in Construction Fund</u>. When each Project shall have been completed and placed in operation or abandoned, as evidenced by a certificate signed by an Authorized Officer and filed with the Secretary of the Board and accompanied by an opinion of the Attorney General or a special Assistant Attorney General of the Commonwealth that there are no unsatisfied mechanics', laborers', contractors' or materialmen's liens against the Project or on file in any public office where the same should be filed in order to be valid liens against the Project, and that, in the opinion of the signer, the time within which such liens can be filed has expired, any balance in the Construction Fund not deemed by the Board to be necessary to be reserved for the payment of any remaining part of the Cost of the Project shall be transferred to the credit of the Debt Service Fund and shall be invested at a yield not to exceed the lower of (l) the yield on the Bonds from which such moneys were derived or (2) the blended yield on the Bonds, until such moneys are used to purchase or redeem the Bonds on the earliest date on which an optional redemption may be permitted.

ARTICLE V

REVENUES AND FUNDS

- Section 5.1 <u>Covenants as to Fees and Revenues</u>. The Board covenants that it will impose and collect fees, rents and charges for or in connection with the use, occupation or services of the System and that, from time to time and as often as it shall appear necessary, it will revise such fees, rents and charges as may be necessary or proper so that the moneys deposited or transferred to the credit of the Revenue Fund in each Fiscal Year from any available funds, including without limitation any transfers thereto from the Surplus Fund, will be a sum at least equal to the total of the following:
 - (a) the Current Expenses (excluding any Current Expenses attributable to any facilities that would become Excluded Facilities as a result of any such exclusion of Revenues) of the System for the current Fiscal Year as shown by the Annual Budget for such Fiscal Year;
 - (b) 100% of the Principal and Interest Requirements for the current Fiscal Year, on account of the Bonds of each Series then outstanding;
 - (c) 100% of the amounts required to be deposited into the Reserve Fund during the current Fiscal Year, as set forth in Section 5.9 and in the Series Resolutions; and

- (d) 100% of the debt service or other payment requirements for the current Fiscal Year on account of any Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations then outstanding.
- **Section 5.2** <u>Use of System</u>. Although the System currently consists of utility facilities, the University may in its discretion use all or any portion of the System for any purpose permitted by law.
- Section 5.3 Revenue Fund. The University shall create or cause to be created a fund designated "Virginia Polytechnic Institute and State University Utility System Revenue Fund" (the "Revenue Fund") to be held and administered by the University. The University covenants that all Revenues derived from the operation or ownership of the System will be credited to the Revenue Fund. All moneys in the Revenue Fund shall be held for the benefit of the holders of the Bonds and the outstanding Parity Indebtedness and Parity Swap Obligations and applied as hereinafter provided in this Article.
- **Section 5.4** <u>Surplus Fund</u>. The University shall create or cause to be created a fund designated "Virginia Polytechnic Institute and State University Utility System Surplus Fund" (the "Surplus Fund") to be held and administered by the University. All moneys in the Surplus Fund shall be applied as hereinafter provided in this Article.
- **Section 5.5** Annual Budget. The Board covenants that on or before the first day of each Fiscal Year it will prepare and adopt a budget of Current Expenses for the System for such Fiscal Year (herein sometimes called the "Annual Budget").

If for any reason the Board shall not have adopted the Annual Budget before the first day of any Fiscal Year, the budget for the preceding Fiscal Year, shall, until the adoption of the Annual Budget, be deemed to be in force and shall be treated as the Annual Budget under the provisions of this Article.

The Board may at any time adopt an amended or supplemental Annual Budget for the remainder of the then current Fiscal Year, and when so adopted the Annual Budget so amended or supplemented shall be treated as the Annual Budget under the provisions of this Article.

Section 5.6 Payments from Revenue Fund. Current Expenses of the System shall be paid from the Revenue Fund as the same shall become due and payable.

Following the end of each quarter of each Fiscal Year, the University may withdraw from the Revenue Fund and transfer to the Surplus Fund an amount up to the amount of all moneys held for the credit of the Revenue Fund on the last day of such quarter (a) less an amount to be held as a reserve for Current Expenses of the System not to exceed the amount shown by the Annual Budget to be necessary for Current Expenses of the System for the next three months, (b) less an amount equal to the amount of interest to become due and payable within the next ensuing three months with respect to the Bonds of each Series then outstanding (or a pro-rata quarterly deposit in the case of Bonds with respect to which interest is paid on an other than a

quarterly basis), except any interest to be paid from the separate interest account in the Construction Fund under the provisions of Section 4.3 or interest deposited into the Debt Service Fund from the proceeds derived from the sale of any Bonds, as set forth in the last paragraph of Section 2.10, and 1/4 of the amount of principal of the Bonds of each Series then or to become due and payable (whether at maturity or upon mandatory sinking fund redemption or otherwise) within the next ensuing 12 months, (c) less all amounts previously retained in the Revenue Fund in past quarters for principal and interest payments on the Bonds and not yet transferred to the Debt Service Fund, (d) less such amounts at such times as are required to pay debt service and other amounts due on Parity Indebtedness and Parity Swap Obligations, and (e) less such amount, if any, as may be required to be deposited in the Reserve Fund pursuant to Section 5.9 or the Series Resolutions.

Section 5.7 <u>Debt Service Fund</u>. A fund shall be created by the Paying Agent designated "Virginia Polytechnic Institute and State University Utility System Debt Service Fund" (the "Debt Service Fund") to be held in trust for the benefit of the holders of the Bonds. On or before the day preceding each date on which payments of interest or principal shall be due and payable on the Bonds (a "Payment Date"), the University shall transfer to the Paying Agent from either the Revenue Fund or Surplus Fund an amount of money sufficient to cause the amount held in the Debt Service Fund to be equal to the interest, premium and principal due on the Bonds on such Payment Date. The Paying Agent shall cause payment of the amounts due on the Bonds on each such Payment Date.

Section 5.8 Payments to Bondholders. The Paying Agent shall, at appropriate times on or before each Payment Date, withdraw from the Debt Service Fund the amounts needed on such date to pay the principal, premium and interest on the Bonds and shall pay or cause the same to be paid to the Bondholders as such principal, premium and interest become due and payable.

Section 5.9 Reserve Fund/Application of Moneys in Reserve Fund. A fund shall be created by the Paying Agent designated "Virginia Polytechnic Institute and State University Utility System Reserve Fund" (the "Reserve Fund") to be held in trust for the benefit of the holders of those Series of Bond secured thereby. Not every Series of Bonds need be secured by the Reserve Fund. Only those Series of Bonds issued under Series Resolutions which provide some mechanism for funding an amount not to exceed the Reserve Fund Requirement or obtaining a Reserve Fund Credit Facility Agreement will be secured by the Reserve Fund. The Paying Agent shall establish separate accounts in the Reserve Fund for each Series of Bonds so secured. The Bondholders of such Series of Bonds will have an interest only in the account created for such Series. At what time and in what manner the account for a Series is funded or at what time and in what manner a Reserve Fund Credit Facility Agreement will be required or will be drawn upon shall be governed by the Series Resolutions.

Moneys held for the credit of the Reserve Fund shall be used for the purpose of paying the interest on and the principal of those Series of Bonds secured by the Reserve Fund whenever and to the extent that the moneys held for the credit of the Debt Service Fund with respect to such Series of Bonds shall be insufficient for such purpose. If the moneys in the Debt Service Fund are insufficient for such purpose with respect to a Series of Bonds secured by the Reserve Fund and if a Reserve Fund Credit Facility Agreement exists, the Paying Agent shall take such

actions as may be required to draw upon such Reserve Fund Credit Facility Agreement and to deposit the proceeds into the appropriate account in the Reserve Fund.

Section 5.10 Application of Moneys in the Surplus Fund. Moneys held for the credit of the Surplus Fund may be used for any lawful purpose directly benefiting the University as may from time to time be determined by the University.

Section 5.11 Application of Moneys in Debt Service Fund and Reserve Fund. Subject to the terms and conditions set forth in this Resolution, moneys held for the credit of the Debt Service Fund and the Reserve Fund shall be disbursed by the Paying Agent for (a) the payment of interest on the Bonds issued hereunder as such interest becomes due and payable, or (b) the payment of the principal of such Bonds at their maturities and upon redemption and such moneys are hereby pledged to and charged with the payments mentioned in this Section. Any moneys which shall be deposited by the University in the Debt Service Fund with the Paying Agent for the purpose of paying any of the Bonds hereby secured, either at the maturity thereof or upon call for redemption, and which shall remain unclaimed by the holders of such Bonds for the period of five years after the date on which such Bonds shall have become due and payable shall be disposed of by the Paying Agent in accordance with The Uniform Disposition of Unclaimed Property Act, Chapter 11.1, Title 55, Code of Virginia of 1950, as amended (the "Unclaimed Property Act"). The Paying Agent shall be entitled to act in good faith in reliance on written direction from the University or its counsel in complying with the Unclaimed Property Act, absent the Paying Agent's negligence or willful misconduct.

Whenever the total of the moneys held for the credit of the Debt Service Fund and the Reserve Fund shall be sufficient for paying the principal of and the redemption premium, if any, and the interest accrued on all Bonds then outstanding under the provisions of this Resolution, such moneys may be applied by the Paying Agent, at the direction of the University, to the redemption of such Bonds.

Service Fund and the Reserve Fund shall be held in trust and applied as herein provided with respect to each such fund and, pending such application, shall be subject to a lien and charge in favor of the holders of the Bonds issued and outstanding under this Resolution and the respective Series Resolutions and for the further security of such holders until paid out or transferred as herein provided; it being understood that the Reserve Fund secures only those Series of Bonds specifically secured by the Reserve Fund, that the holders of the Parity Indebtedness and Parity Swap Obligations shall have a lien on and pledge of the Net Revenues for the payment of debt service and other amounts due on the Parity Indebtedness and Parity Swap Obligations on a parity with the Bondholders and that the holders of the Subordinate Obligations have a lien on and pledge of the Net Revenues subordinate and junior to the Bondholders.

Section 5.13 <u>Cancellation of Bonds Upon Payment</u>. All Bonds paid, redeemed or purchased by the University, either at or before maturity shall be canceled upon the payment, redemption or purchase of such Bonds and shall be delivered to the University when such payment, redemption or purchase is made. All Bonds canceled under any of the provisions of this Resolution may be cremated or otherwise destroyed by the University or its designee.

ARTICLE VI

INVESTMENT OF FUNDS

Section 6.1 <u>Moneys Held by University or Deposited with the Paying Agent</u>. All moneys received by the University or deposited with the Paying Agent under the provisions of this Resolution shall be held and applied only in accordance with the provisions of the Act and this Resolution and shall not be subject to liens of or attachment by any creditor of the University.

Section 6.2 <u>Investment of Moneys</u>. Moneys held for the credit of the various funds and accounts hereunder shall be invested by the University for such periods not to extend beyond the date such funds will be needed in any investments which are permitted for the investment of public funds under the laws of the Commonwealth.

Obligations so purchased as an investment of moneys in any such fund or account, and any interest bearing time deposits made with respect to such moneys, shall be deemed at all times to be a part of such fund or account, and the interest received thereon and any profit realized from such investment shall be credited to such fund or account, and any loss resulting from such investment shall be charged to such fund or account; provided, however, that the interest received on the investment of moneys in the Debt Service Fund and the Reserve Fund and any profit realized from such investment shall be credited to the Revenue Fund and any loss resulting from such investment shall be charged to the Revenue Fund. The Paying Agent shall sell at the best price obtainable or present for redemption any obligations so purchased whenever it shall be necessary so to do in order to provide moneys to meet any payment or transfer from any such fund or account. Neither the Paying Agent nor the University shall be liable or responsible for any loss resulting from any such investment.

The Debt Service Fund may only be invested in investments permitted for the investment of public sinking funds.

For the purpose of determining the amount on deposit to the credit of any such fund or account, obligations in which moneys in such fund or account have been invested shall be computed at market value.

ARTICLE VII

PARTICULAR COVENANTS

Section 7.1 Payment of Principal and Interest; Pledge of Revenues; Exclusions from and Additions to Revenues. The University covenants that it will promptly pay from the sources described herein the principal of and the interest on every Bond issued under the provisions of this Resolution at the place or places, on the dates and in the manner provided herein and in said Bonds, and any premium required for the retirement of said Bonds by purchase or redemption, according to the true intent and meaning thereof. Except as otherwise provided in this Resolution or any Series Resolution, such principal, interest and premium are payable solely

from Revenues, which Revenues and other moneys to the extent provided in the Resolution are hereby pledged to the payment thereof in the manner and to the extent hereinabove particularly specified.

Notwithstanding any other provision of this Resolution, the University may at any time exclude any Revenues from the Revenues pledged hereunder if, prior to the exclusion of such Revenues, an Authorized Officer of the University certifies in writing (1) that after the exclusion of the Revenues designated in such certificate, the University will not be in default of any of its covenants under this Resolution or any Series Resolution, including without limitation the covenants relating to fees, rents, charges and revenues contained in Section 5.1 and (2) that Revenues received or to be received in the then current Fiscal Year, after taking into account such exclusion, will in the opinion of such Authorized Officer at least equal the sum of the amounts set forth in clauses (a), (b), (c) and (d) of Section 5.1. In addition, the University may at any time add to the definition of Revenues hereunder any revenues that are not then subject to the lien hereof by filing with the Paying Agent a written notice of such addition and a description of the revenues to be added.

THE UNIVERSITY SHALL NOT BE OBLIGATED TO PAY THE PRINCIPAL OF OR INTEREST ON THE BONDS EXCEPT FROM THE SOURCES NOTED HEREIN OR IN ANY SERIES RESOLUTION PLEDGED THEREFOR. THE BONDS AND THE INTEREST THEREON SHALL NOT BE DEEMED TO CONSTITUTE A DEBT OR LIABILITY OF THE COMMONWEALTH, LEGAL, MORAL OR OTHERWISE. NEITHER COMMONWEALTH NOR THE UNIVERSITY SHALL BE OBLIGATED TO PAY THE PRINCIPAL OF OR INTEREST ON THE BONDS OR OTHER COSTS INCIDENT THERETO EXCEPT FROM THE SOURCES NOTED HEREIN OR IN ANY SERIES RESOLUTION PLEDGED THEREFOR, AND NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE COMMONWEALTH NOR ANY OTHER REVENUES OR FUNDS OF THE UNIVERSITY ARE PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF OR INTEREST ON THE BONDS OR OTHER COSTS INCIDENT THERETO.

Section 7.2 <u>Construction of Projects</u>. The University covenants that, in the event that Bonds shall be issued under the provisions of Section 2.10 for the purpose of providing funds for paying all or any part of the Cost of constructing any Additional Facilities, it will forthwith proceed to construct such Additional Facilities in conformity with law and all requirements of all governmental authorities having jurisdiction, and that it will complete such construction as quickly as practicable.

Section 7.3 <u>Architectural and Engineering Services</u>. The University covenants that it will provide and maintain competent and adequate architectural or engineering services covering the supervision and inspection of the development and construction of any Additional Facilities and will obtain all approvals and permits required by law as a condition precedent to the construction, development and operation of any such Additional Facilities.

Section 7.4 <u>Use and Operation of System</u>. The University covenants that it will establish and enforce reasonable rules and regulations governing the use of the System and the operation thereof, that all conditions of employment and all compensation, salaries, fees and

wages paid by it in connection with the maintenance, repair and operation of the System will be reasonable, that no more persons will be employed by it than are necessary, that all persons employed by it will be qualified for their respective positions and that it will at all times maintain the System in good repair and in sound operating condition and will make all necessary repairs, renewals and replacements.

Section 7.5 Parity Liens; Payment of Lawful Charges. The University covenants that, except for existing Parity Indebtedness, Parity Swap Obligations and as provided in this Resolution, it will not create or suffer to be created any lien or charge upon the System or any part thereof or upon the revenues therefrom senior to or on a parity with the lien of the holders of the Bonds (other than the security interest created in connection with a Reserve Fund Credit Facility Agreement or a Credit Facility Agreement) and that, from such Revenues or other available funds, it will pay or cause to be discharged, or will make adequate provision to satisfy and discharge, within 60 days after the same shall accrue, all lawful claims and demands for labor, materials, supplies or other objects which, if unpaid, might by law become a lien upon the System or any part thereof or the revenues therefrom; provided, however, that nothing in this Section contained shall require the University to pay or cause to be discharged, or make provision for, any such lien or charge so long as the validity thereof shall be contested in good faith and by appropriate legal proceedings.

Section 7.6 Acceptance of Other Funds Permitted. Notwithstanding any other provision of this Resolution, the University may accept from the United States of America, the Commonwealth or any of their agencies, departments or political subdivisions or any person, firm or corporation such moneys as may be offered for the purpose of paying all or any part of the Cost of constructing, acquiring, maintaining, repairing and operating the System and nothing herein shall be construed to prevent the University from depositing any funds available to the University for such purpose in the Debt Service Fund for the payment of the interest on or the principal of the Bonds issued under the provisions of this Resolution so long as the "federal guarantee" provisions of Section 149(b) of the Code will not be violated by such deposit.

Insurance. The University covenants that from and after the time when Section 7.7 the contractors or any person engaged in constructing any Additional Facilities or any part thereof shall cease to be responsible, pursuant to the provisions of the respective contracts for the construction of Additional Facilities or such part, for loss or damage to such Additional Facilities or such part occurring from fire or lightning, it will insure or cause to be insured and at all times keep such Additional Facilities or such part insured and will now and at all times keep the System insured with a responsible insurance company or companies, qualified to assume the risk thereof, against physical loss or damage caused by fire or lightning, with such exceptions as are ordinarily required by insurers of structures or facilities of similar type, in an amount not less than the aggregate principal amount of Bonds and Parity Indebtedness outstanding (unless provision for payment thereof shall have been made); provided, however, that such amount of insurance shall at all times be sufficient to comply with any legal or contractual requirement which, if breached, would result in assumption by the University of a portion of any loss or damage as a co-insurer, and such insurance may provide for the deduction from each claim for loss or damage (except in case of a total loss) of not more than 2% of the total amount of insurance required by the application of the co-insurance clause; and provided, further, that if at any time the University

shall be unable to obtain such insurance to the extent above required, either as to amount of such insurance or as to the risks covered thereby or the deductible provision thereof, it will not constitute an event of default under the provisions of this Resolution if the University shall carry such insurance to the extent reasonably obtainable.

The proceeds of such insurance shall be available for, and shall to the extent necessary be applied to, the repair, replacement or reconstruction of the damaged or destroyed property. If such proceeds are more than sufficient for such purpose, the balance remaining shall be deposited to the credit of the Surplus Fund. If such proceeds, with other available funds, shall be insufficient for such purpose, such proceeds shall be deposited to the credit of the Debt Service Fund and used to purchase or redeem Bonds on the earliest date on which an optional redemption may be permitted, or shall be used to repair, replace or reconstruct the damaged or destroyed property, as the University by resolution may determine. If such proceeds are deposited to the Debt Service Fund to redeem the Bonds in part, the University shall perform an internal rate study for the System and, if the rate study shows that the Revenues (taking into account any loss of Revenues as a result of such damage or destruction) will be insufficient to deposit into the Revenue Fund the entire amount referred to in clauses (a), (b), (c) and (d) of Section 5.1 (taking into account the amounts on deposit in the Debt Service Fund), the University shall adjust its rates in the manner recommended by the rate study so that the Revenues will be sufficient to deposit into the Revenue Fund all of the amounts referred to in clauses (a), (b), (c) and (d) of Section 5.1.

The foregoing insurance requirements may be modified or amended if and to the extent a qualified independent insurance consultant determines that such requirements are not necessary or that the required coverage is not reasonably commercially available or if and to the extent that the laws of the Commonwealth provide for a self-insurance program and the University participates in such program.

- Section 7.8 Other Insurance. To the extent not covered by Section 7.7, the University covenants that it will at all times carry or cause to be carried with a responsible insurance company or companies, qualified to assume the risks thereof, such other insurance in such amount and covering such risks with respect to the System as the University shall deem to be reasonable and desirable.
- **Section 7.9** Rights of Bondholders Not to Be Impaired. The University covenants that no contract or contracts will be entered into or any action taken with respect to the System which might impair or diminish in any material respect the rights of the Bondholders.
- **Section 7.10** <u>Further Instruments and Actions</u>. The University covenants that it will, from time to time, execute and deliver such further instruments and take such further action as may be required to carry out the purposes of this Resolution.
- Section 7.11 <u>Accurate Records and Accounts</u>. The University covenants that it will keep the funds and accounts of the System separate from all other funds and accounts of the University, and that it will keep accurate records and accounts of all items of cost and of all

expenditures relating to the System and of the Revenues collected and the application of such Revenues.

The University further covenants that it will cause to be filed not later than the end of the seventh month following the close of each Fiscal Year with the Secretary of the Board and the Paying Agent a certificate, signed by an Authorized Officer, stating that he or she has reviewed this Resolution and has no knowledge of any default by the University in the performance or observance of any of the provisions of this Resolution or, if he or she has such knowledge, specifying each default and the nature thereof and what actions the University is taking to cure such default.

The University further covenants that it will cause any additional reports or any audits relating to the System to be made as required by law.

The cost of the reports referred to in this Section shall be treated as a part of the cost of operation of the System.

Section 7.12 Recognized Accounting Principles. The University covenants that all of the accounts and records of the University will be kept according to generally accepted accounting principles, consistently applied.

Section 7.13 Covenant Against Sale or Encumbrances. The University covenants that, except as in this Section, Section 7.1 or in any Series Resolution otherwise permitted, it will not sell, exchange, lease or otherwise dispose of or encumber the System or any part thereof not encumbered as of the date of this Resolution.

The University may from time to time sell, exchange, lease or otherwise dispose of any equipment, machinery, fixtures, apparatus, tools, instruments or other similar property if it determines that such articles are no longer needed or are no longer useful in connection with the System, and the proceeds thereof shall be applied to the replacement of the properties so sold, exchanged, leased or disposed of or shall be deposited to the credit of the Surplus Fund.

In addition to any sale, exchange, lease or disposition permitted above, the University may from time to time sell, exchange, lease or otherwise dispose of any other property of the System; provided, however, if such sale, exchange, lease or disposition would result in a loss of more than 10% of the Revenues of the System, the University shall (1) deposit the proceeds derived from such sale, exchange, lease or disposition into the Debt Service Fund, to be used to redeem Bonds on the earliest date on which an optional redemption may be permitted and (2) unless the Bonds will be redeemed in full pursuant to clause (1) or this Resolution or the Bonds are otherwise defeased as provided in Article XI, perform an internal rate study for the System and, if the rate study shows that the remaining Revenues will be insufficient to deposit into the Revenue Fund the entire amount referred to in clauses (a), (b), (c) and (d) of Section 5.1, the University shall adjust its rates in the manner recommended by the rate study so that the Revenues will be sufficient to deposit into the Revenue Fund all of the amounts referred to in clauses (a), (b), (c) and (d) of Section 5.1.

<u>Moneys</u>. The University covenants that if at any time the moneys held for the credit of the Debt Service Fund and the Reserve Fund shall be insufficient for the purpose of paying the interest on and the principal of the Bonds as such interest and principal becomes due and payable, the University will deposit to the credit of the Debt Service Fund an amount sufficient, together with the amount then held for the credit of the Debt Service Fund, to pay such interest and principal from any moneys available for the use of the University, including the Surplus Fund, and which are not required by law or by previous binding contract to be devoted to some other purpose.

Section 7.15 Reserved.

Section 7.16 <u>Computation Assumptions</u>. For purposes of construing any definitions or computing any covenants set forth in this Resolution, the following rules shall apply:

- (a) The Principal and Interest Requirements on any Balloon Bond in each Fiscal Year will be assumed to be the sum of (i) the principal and interest due in that Fiscal Year (except any Fiscal Year in which more than 25% of the principal amount of the Bond is due, in which case this amount shall be zero) and (ii) the amount of principal and interest assigned to that Fiscal Year assuming that the amount of principal due in any Fiscal Year in which more than 25% of the principal amount of the Bond is due is computed on a level annual debt service schedule calculated at the interest rate on the Bond for a period of 30 years from the date of issuance.
- (b) Principal and Interest Requirements on any Put Bond in each Fiscal Year will be assumed to be the sum of (i) the principal and interest due in that Fiscal Year and (ii) the amount of principal and interest determined by amortizing from its incurrence date the amount of principal that may become subject to mandatory purchase (including purchase that may be required at the option of the owner of the Bond) in any Fiscal Year in which more than 25% of the principal amount of the Bond may be subject to such mandatory purchase on a level annual debt service schedule calculated as described in (a) above.
- (c) Principal and Interest Requirements will be assumed to exclude capitalized interest on Bonds and principal of and interest on Bonds to the extent that amounts are on deposit in an irrevocable escrow or are derived from the proceeds of other Bonds (including the earnings or other increment to accrue thereon) that must be applied to pay such principal and interest and such amounts are sufficient to pay such principal and interest.
- (d) The interest rate on any Variable Rate Bond will be assumed to be the average interest rate for the most recent 36-month period. However, if the Variable Rate Bond has not been outstanding for 36 months, the interest rate will be assumed to be the higher of (i) the average interest rate in effect for the 12-month period preceding the date of calculation or (ii) the interest rate in effect on the date of calculation.

(e) For any Bond for which a binding commitment, letter of credit or other credit arrangement providing for the extension of such Bond beyond its original maturity date exists, the computation of Principal and Interest Requirements will be made on the assumption that such Bond will be amortized either (i) in accordance with such credit arrangement or (ii) over a period of 30 years from its original maturity date, whichever is longer.

ARTICLE VIII

EVENTS OF DEFAULT AND REMEDIES

- **Section 8.1** Events of Default. Each of the following events is hereby declared to be an "Event of Default" under this Resolution:
 - (a) due and punctual payment of the principal and of the redemption premium, if any, of any of the Bonds is not made when the same becomes due and payable, either at maturity or by proceedings for redemption or otherwise;
 - (b) due and punctual payment of any installment of interest on any of the Bonds is not made when the same becomes due and payable;
 - (c) the University unreasonably delays or fails to carry on with reasonable dispatch the construction of any Project for which Bonds are issued under the provisions of this Resolution unless the University receives an opinion from a qualified independent feasibility consultant that such delay or abandonment is in the best interests of the Bondholders;
 - (d) the University, for any reason, is rendered incapable of fulfilling its obligations hereunder;
 - (e) final judgment for the payment of money is rendered against the University as a result of the ownership, control or operation of the System and any such judgment is not discharged within 60 days from the entry thereof or an appeal is not taken therefrom or from the order, decree or process upon which or pursuant to which such judgment has been granted or entered, in such manner as to stay the execution of or levy under such judgment, order, decree or process or the enforcement thereof;
 - (f) an order or decree is entered, with the consent or acquiescence of the University, appointing a receiver or receivers of the System or any part thereof or of the revenues thereof, or if such order or decree, having been entered without the consent or acquiescence of the University, is not vacated or discharged or stayed on appeal within 60 days after the entry thereof;
 - (g) any proceeding is instituted, with the consent or acquiescence of the University, for the purpose of effecting a composition between the University and its creditors or for the purpose of adjusting the claims of such creditors pursuant to any

federal or state statute now or hereafter enacted, if the claims of such creditors are under any circumstances payable from Revenues;

- (h) the University defaults in the due and punctual performance of any other of the covenants, conditions, agreements and provisions contained in the Bonds or in this Resolution on the part of the University to be performed, and such default continues for 30 days after written notice specifying such default and requiring same to be remedied is given to the Board by any Bondholder provided that if such default is such that it can be corrected but cannot be corrected within such 30 day period, it shall not constitute an Event of Default if corrective action is instituted by the University within such period and is diligently pursued until the default is corrected; or
- (i) an Event of Default occurs under any Parity Indebtedness or Parity Interest Rate Agreement.
- **Section 8.2** Remedies. (a) Upon the happening and continuance of an Event of Default, hereunder, the Holders of not less than 25% in aggregate principal amount of the Bonds, by instrument or instruments filed with the University and proved or acknowledged in the same manner as a deed to be recorded, may appoint a trustee to represent the Holders of the Bonds for the purposes herein, which trustee may be the State Treasurer and shall be the same trustee so appointed with respect to all other outstanding Parity Indebtedness and Parity Swap Obligations. Such trustee may, and upon written request of the Holders of not less than 25% in principal amount of the Bonds then outstanding shall, in its own name:
 - (1) by mandamus or other suit, action or proceeding at law or in equity enforce all rights of the Holders of the Bonds, including the right to require the University and its Board to collect fees, rents, charges or other revenues adequate to carry out an agreement as to, or pledge of, such revenues, and to require the University and Board to carry out any other agreements with the Holders of the Bonds and to perform it and their duties under the Act;
 - (2) bring suit upon the Bonds;
 - (3) by action or suit in equity, require the University to account as if it were the trustee of an express trust for the Holders of the Bonds; or
 - (4) by action or suit in equity, enjoin any acts or things which may be unlawful or in violation of the rights of the Holders of the Bonds.
 - (b) Any such trustee, whether or not all such Bonds have been declared due and payable, shall be entitled as of right to the appointment of a receiver who may enter and take possession of any property of the University any of the Revenues from which are pledged for the security of the Bonds and operate and maintain the same and collect and receive all fees, rents, charges and other revenues thereafter arising therefrom in the same manner as the University itself might do and shall deposit all such moneys in a separate account and apply the same in such manner as the court appointing such receiver shall direct. In any suit, action or proceeding by the trustee the fees, counsel fees and

expenses of the trustee and of the receiver, if any, shall constitute taxable costs and disbursements and all costs and disbursements allowed by the court shall be a first charge on any fees, rents, charges and other Revenues of the University pledged for the security of the Bonds.

Such trustee shall, in addition to the foregoing, have and possess all of the powers necessary or appropriate for the exercise of any functions specifically set forth herein or incident to the general representation of the Holders of the Bonds in the enforcement and protection of their rights.

(c) To the extent permitted by law, upon the happening and continuance of any Event of Default, then and in every such case any Bondholder may proceed, subject to the provisions of Sections 8.5 and 8.6, to protect and enforce the rights of the Bondholders by a suit, action or special proceeding in equity or at law, either for the specific performance of any covenant or agreement contained herein or in aid or execution of any power herein granted or for the enforcement of any proper legal or equitable remedy as such Bondholder shall deem most effectual to protect and enforce such rights. If necessary and if not inconsistent with the terms of this Resolution or the applicable Series Resolution, the Paying Agent will make any appropriate demands upon the issuers of the Reserve Fund Credit Facility Agreement or the Credit Facility Agreement.

Section 8.3 Pro Rata Application of Funds. Anything in this Resolution to the contrary notwithstanding, if at any time the moneys in the Debt Service Fund shall not be sufficient to pay the interest on or the principal of the Bonds as the same shall become due and payable, such moneys, together with any moneys then available or thereafter becoming available for such purpose, whether through the exercise of the remedies provided for in this Article or otherwise, shall be applied first to the payment of any fees and expenses of the Custodian, Paying Agent and Registrar and thereafter shall be applied as follows:

(a) If the principal of all the Bonds shall not have become due and payable, all such moneys shall be applied

FIRST: to the payment to the persons entitled thereto of all installments of interest then due and payable in the order in which such installments became due and payable and, if the amount available shall not be sufficient to pay in full any particular installment, then to the payment, ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference except as to any difference in the respective rates of interest specified in the Bonds;

SECOND: to the payment to the persons entitled thereto of the unpaid principal of any of the Bonds which shall have become due and payable (other than Bonds called for redemption for the payment of which moneys are held pursuant to the provisions of this Resolution), in the order of their due dates, with interest on the principal amount of such Bonds at the respective rates specified therein from the respective dates upon which such Bonds became due and

payable, and, if the amount available shall not be sufficient to pay in full the principal of the Bonds due and payable on any particular date, together with such interest, then to the payment first of such interest, ratably, according to the amount of such interest due on such date, and then to the payment of such principal, ratably, according to the amount of such principal due on such date, to the persons entitled thereto without any discrimination or preference; and

THIRD: to the payment of the interest on and the principal of the Bonds, to the purchase and retirement of Bonds and to the redemption of Bonds, all in accordance with the provisions of Article V of this Resolution.

(b) If the principal of all the Bonds shall have become due and payable, all such moneys shall be applied

FIRST: to the payment to the persons entitled thereto of all installments of interest due and payable if any, in the order in which such installments became due and payable and, if the amount available shall not be sufficient to pay in full any particular installment, then to the payment, ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference except as to any difference in the respective rates of interest specified in the Bonds; and

SECOND: to the payment of the principal of the Bonds, ratably, to the persons entitled thereto, without preference or priority of any Bond over any other Bond.

Whenever moneys are to be applied by the trustee pursuant to the provisions of this Section, such moneys shall be applied by the trustee at such times, and from time to time, as the trustee in his or her sole discretion shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future; the deposit of such moneys with the Paying Agent, or otherwise setting aside such moneys, in trust for the proper purpose shall constitute proper application by the trustee; and the trustee shall incur no liability whatsoever to the Board, to any Bondholder or to any other persons for any delay in applying any such moneys, so long as the trustee acts with reasonable diligence, having due regard to the circumstances, and ultimately applies the same in accordance with such provisions of this Resolution as may be applicable at the time of application by the trustee. Whenever the trustee shall exercise such discretion in applying such moneys, he or she shall fix the date (which shall be an interest payment date unless the trustee shall deem another date more suitable) upon which such application is to be made and upon such date interest on the amounts of principal to be paid on such date shall cease to accrue. The trustee shall give such notice (or shall cause the Paying Agent to give such notice) as he or she may deem appropriate of the fixing of any such date and shall not be required to make payment to the holder of any Bond until such Bond shall be surrendered to the trustee or the Paying Agent for appropriate endorsement, or for cancellation if fully paid. Nothing in this Section 8.3 shall entitle the holder of any Bond to any moneys in the Reserve Fund except moneys, if any, held in the account therein for the Series of Bonds of which his or her bond is one.

- **Section 8.4** Effect of Discontinuance of Proceedings. In case any proceeding taken by any Bondholder on account of any Event of Default shall have been discontinued or abandoned for any reason, then and in every such case the University and the Bondholders shall be restored to their former positions and rights hereunder, respectively, and all rights and remedies of the Bondholders shall continue as though no such proceedings had been taken.
- Section 8.5 <u>Proceedings for Equal Benefit of All Bondholders</u>. No Bondholder shall have any right in any manner whatever to affect, disturb or prejudice the security of this Resolution or to enforce any right hereunder, except in the manner herein provided, and all proceedings at law or in equity shall be instituted, had and maintained for the equal benefit of all Bondholders.
- **Section 8.6** No Remedy Exclusive. (a) No remedy herein conferred on the Bondholders is intended to be exclusive of any other remedy or remedies, and each and every remedy conferred shall be cumulative and shall be in addition to every other remedy given hereunder and under the Act, including, without limitation, the benefits to which the Bondholders shall be entitled pursuant to paragraph (b) of this Section 8.6, or now or hereafter existing at law or in equity or by statute.
- (b) To the extent permitted by the terms of the Act and not inconsistent with any provision of this Resolution or any Series Resolution applicable to the Bonds of a Series, Bondholders shall be entitled to the same rights and remedies provided for in Sections 23-20 and 23-26 of Title 23 that are available to the holders of bonds issued pursuant to the General Higher Education Bond Act, whether or not an Event of Default has occurred.
- Section 8.7 No Delay or Omission Construed to Be a Waiver. No delay or omission of any Bondholder to exercise any right or power accruing upon any Event of Default occurring and continuing as aforesaid shall impair any such right or power or shall be construed to be a waiver of any such Event of Default or an acquiescence therein; and every power and remedy given by this Article to the Bondholders may be exercised from time to time and as often as may be deemed expedient.

ARTICLE IX

EXECUTION OF INSTRUMENTS BY BONDHOLDERS AND PROOF OF OWNERSHIP OF BONDS

Section 9.1 Execution of Instruments; Proof of Ownership. Any request, direction, consent or other instrument in writing required or permitted by this Resolution to be signed or executed by Bondholders may be in any number of concurrent instruments of similar tenor and may be signed or executed by such Bondholders or their attorneys or legal representatives. Proof of the execution of any such instrument and of the ownership of Bonds shall be sufficient for any purpose of this Resolution and shall be conclusive in favor of the University and the Paying Agent with regard to any action taken by them under such instrument if made in the following manner:

- (a) The fact and date of the execution by any person of any such instrument may be proved by the verification of any officer in any jurisdiction who, by the laws thereof, has power to take affidavits within such jurisdiction, to the effect that such instrument was subscribed and sworn to before him, or by an affidavit of a witness to such execution. Where such execution is by an officer of a corporation or association or a member of a partnership on behalf of such corporation, association or partnership such verification or affidavit shall also constitute sufficient proof of his authority.
- (b) The fact of the holding of Bonds hereunder by any Bondholder and the amount and the numbers of such Bonds and the date of its holding the same shall be proved by the registration books kept under the provisions of Section 2.7.

ARTICLE X

SUPPLEMENTAL AND SERIES RESOLUTIONS

- **Section 10.1** <u>Supplemental Resolutions</u>. The University may, from time to time and at any time, without the consent of any holders of the Bonds, adopt such resolutions supplemental hereto as shall not be inconsistent with the terms and provisions hereof (which supplemental resolutions shall thereafter form a part hereof), as follows:
 - (a) to cure any ambiguity or formal defect or omission or to correct any inconsistent provisions in this Resolution or in any supplemental resolution,
 - (b) to provide for the issuance of uncertificated Bonds pursuant to Section 2.2 of this Resolution, or to obtain or maintain a rating for one or more Series of the Bonds,
 - (c) to grant to or confer upon the Bondholders any additional rights, remedies, powers, authority or security that may lawfully be granted to or conferred upon the Bondholders,
 - (d) to add to the conditions, limitations and restrictions on the issuance of Bonds under the provisions of this Resolution other conditions, limitations and restrictions thereafter to be observed,
 - (e) to add to the covenants and agreements of the Board in this Resolution other covenants and agreements thereafter to be observed by the Board or to surrender any right or power herein reserved to or conferred upon the Board,
 - (f) to comply with any proposed, temporary or permanent regulations regarding the arbitrage rebate requirements of the Code, to comply with any other provision of the Code to maintain the tax-exempt status of interest on the Bonds, or to comply with Federal or state securities or "blue-sky" laws,

- (g) to provide for the financing of any project permitted by the Act and the pledging of any revenues permitted by the Act, provided that subsequent to such financing or pledge the University shall be in compliance with all of the terms, covenants and provisions of this Resolution, or
- (h) to modify, alter, amend, add to or rescind, in any particular, any of the terms or provisions contained in this Resolution, if in the opinion of the Paying Agent, who may rely upon a written opinion of counsel nationally recognized in matters concerning municipal bonds, such supplemental resolution shall not materially adversely affect or prejudice the interests of the Bondholders.

At least thirty (30) days prior to the adoption of any supplemental resolution for any of the purposes of this Section, an Authorized Officer of the University shall cause a notice of the proposed adoption of such supplemental resolution to be mailed, postage prepaid, to all registered owners of Bonds at their addresses as they appear on the registration books. Such notice shall briefly set forth the nature of the proposed supplemental resolution and shall state that copies thereof are on file at the office of the Secretary of the Board for inspection by all Bondholders. Failure on the part of an Authorized Officer of the University to mail the notice required by this Section shall not affect the validity of such supplemental resolution.

Section 10.2 <u>Series Resolutions</u>. The University may from time to time adopt a Series Resolution or Resolutions in order to issue Bonds of any Series hereunder. Subject to Section 2.10, such Series Resolution shall set forth any additional terms and provisions for the Bonds of such Series to the extent not inconsistent with the provisions hereof. The consent of the holders of Bonds of any Series outstanding under this Resolution shall not be required (a) to adopt a Series Resolution providing for the issuance of Bonds of another Series or (b) for the issuance of any Parity Indebtedness, Parity Swap Obligations or Subordinate Obligations.

Section 10.3 Modification of the Resolution with Consent of Holders. Subject to the terms and provisions contained in this Section, and not otherwise, the holders of not less than a majority in aggregate outstanding principal amount of each Series of Bonds of all Series then outstanding shall have the right, from time to time, anything contained in this Resolution to the contrary notwithstanding, to consent to and approve the adoption of such resolution or resolutions supplemental hereto as shall be deemed necessary or desirable by the Board for the purpose of modifying, altering, amending, adding to or rescinding, in any particular, any of the terms or provisions contained in this Resolution or in any supplemental resolution; provided, however, that nothing herein contained shall permit, or be construed as permitting without the approval of all of the Bondholders, (a) an extension of the maturity of the principal of or the interest on any Bond issued hereunder, (b) a reduction in the principal amount of any Bond or the redemption premium or the rate of interest thereon, (c) except as provided herein, the creation of a lien upon or a pledge of Revenues other than the lien and pledge created by this Resolution and liens and pledges permitted by this Resolution, or (d) except as provided herein, a preference or priority of any Bond or Bonds over any other Bond or Bonds, (e) the issuance of indebtedness payable from Net Revenues senior to or on a parity with the Bonds except as provided herein, or (f) a reduction in the aggregate principal amount of the Bonds required for consent to such supplemental resolution. Nothing herein contained, however, shall be construed as making

necessary the approval by Bondholders of the adoption of any supplemental resolution as authorized in Section 10.1.

If at any time the Board shall determine that it is necessary or desirable to adopt any supplemental resolution for any of the purposes of this Section, an Authorized Officer shall cause notice of the proposed adoption of such supplemental resolution to be mailed, not less than 30 nor more than 60 days prior to the date of such adoption, postage prepaid, to all registered owners of the Bonds at their addresses as they appear on the registration books held by the Registrar. Such notice shall briefly set forth the nature of the proposed supplemental resolution and shall state that copies thereof are on file at the office of the Secretary of the Board for inspection by all Bondholders. The Board shall not, however, be subject to any liability to any Bondholder by reason of its failure to cause the notice required by this Section to be mailed and any such failure shall not affect the validity of such supplemental resolution when consented to and approved as provided in this Section.

Whenever, at any time within one year after the date of such notice, the Board shall deliver to the Paying Agent an instrument or instruments in writing purporting to be executed by the holders of not less than a majority or all, as appropriate, in aggregate principal amount of the Bonds of all Series then outstanding, which instrument or instruments shall refer to the proposed supplemental resolution described in such notice and specifically consent to and approve the adoption thereof in substantially the form of the copy thereof referred to in such notice, thereupon, but not otherwise, the Board may adopt such supplemental resolution in substantially such form, without liability or responsibility to any holder of any Bond, whether or not such holder shall have consented thereto.

If the holders of not less than a majority or all, as appropriate, in aggregate principal amount of the Bonds of all Series outstanding at the time of the adoption of such supplemental resolution shall have consented to and approved the adoption thereof as herein provided, no Bondholder shall have any right to object to the adoption of such supplemental resolution, or to object to any of the terms and provisions contained therein or the operation thereof, or in any manner to question the propriety of the adoption thereof, or to enjoin or restrain the Board from adopting the same or from taking any action pursuant to the provisions thereof.

Notwithstanding the foregoing, if any supplemental resolution described in this Section affects the holders of less than all of the Series of Bonds outstanding under this Resolution, only the holders of the Bonds of the Series affected by such supplemental resolution need give their approval, as set forth herein.

Upon the adoption of any supplemental resolution pursuant to the provisions of this Section, this Resolution shall be and be deemed to be modified and amended in accordance therewith, and the respective rights, duties and obligations under this Resolution of the University, the Board and all holders of Bonds then outstanding shall thereafter be determined, exercised and enforced in all respects under the provisions of this Resolution as so modified and amended.

Section 10.4 <u>Supplemental Resolutions Part of This Resolution</u>. Any supplemental resolution adopted in accordance with the provisions of this Article shall thereafter form a part of this Resolution, and all of the terms and conditions contained in any such supplemental resolution as to any provision authorized to be contained therein shall be and shall be deemed to be part of the terms and conditions of this Resolution for any and all purposes. In case of the adoption and approval of any supplemental resolution, express reference may be made thereto in the text of any Bonds issued thereafter, if deemed necessary or desirable by the Board.

Section 10.5 Amendments to Resolution Prior to Delivery of First Series of Bonds. On or prior to the delivery of the first Series of Bonds pursuant to Section 2.10 hereof, the Chief Financial Officer or the University Treasurer may make such changes to, and complete any blanks in, this Resolution as shall be necessary to accurately reflect the structure and terms of the financing. On or prior to the delivery of the first Series of Bonds hereunder, the Chief Financial Officer or the University Treasurer shall deliver to the Secretary of the Board a copy of this Resolution with all of the changes and completions referred to in the preceding sentence (the "Final Resolution"), together with a certificate of the Chief Financial Officer or the University Treasurer to the effect that the resolution so delivered is the Final Resolution. The Secretary shall file such Final Resolution with the minutes of the meeting at which this Resolution is adopted. The certificate of the Chief Financial Officer or the University Treasurer referred to above shall be conclusive evidence that any changes made are approved and effective as if such Final Resolution were adopted by the Board.

ARTICLE XI

DEFEASANCE

Section 11.1 <u>Defeasance</u>. If, when the Bonds of any Series secured hereby shall have become due and payable in accordance with their terms or shall have been duly called for redemption or irrevocable instructions to call such Bonds for redemption shall have been given by the University to the Paying Agent, the whole amount of the principal, premium, if any, and the interest so due and payable upon all of such Bonds then outstanding shall be paid or sufficient moneys, or direct obligations of the United States of America or securities unconditionally guaranteed as to the timely payment of principal and interest by the United States of America, the principal of and the interest on which when due upon maturity or the earliest redemption date (if such obligations are subject to redemption prior to maturity) will provide sufficient moneys (as verified by certified public accountants upon request of the Paying Agent), shall be held by the Paying Agent for such purpose under the provisions of this Resolution and the Series Resolution under which such Bonds were issued, and provision shall also be made for paying all other sums payable hereunder by the University, then and in that case the right, title and interest of the holders of such Bonds in the Revenues, funds and accounts mentioned in this Resolution shall thereupon cease, determine and become void. If all the Bonds of all Series issued hereunder shall have been paid or provided for, the Board in such case, shall repeal and cancel this Resolution and may apply any surplus in any account in the Debt Service Fund and all balances remaining in any other funds or accounts (other than moneys held for the redemption or payment of Bonds or funds representing any Rebate Amount to be paid to the United States of America) to any lawful purpose of the University as the University shall

determine; otherwise this Resolution shall be, continue and remain in full force and effect; provided, however, that in the event direct obligations of the United States of America or securities unconditionally guaranteed as to the timely payment of principal and interest by the United States of America, shall be deposited with and held by the Paying Agent as hereinabove provided, and in addition to the requirements set forth in Article III of this Resolution, the Paying Agent shall within 30 days after such obligations shall have been deposited with it cause a notice to be mailed to each Bondholder at its address as set forth in the registration books held by the Registrar setting forth (a) the date designated for the redemption of the Bonds, (b) a description of the obligations so held by it, (c) if this Resolution has been repealed and canceled in accordance with the provisions of this Section and (d) whether the University has retained the right to call the Bonds for redemption prior to their maturity.

All moneys and obligations held by the Paying Agent pursuant to this Section shall be held in trust and the principal and interest of said obligations when received, and said moneys, applied to the payment, when due, of the principal and the interest and the premium, if any, of the Bonds at maturity or upon their redemption date if so called for redemption.

ARTICLE XII

PAYING AGENT AND REGISTRAR

- **Section 12.1** Paving Agent. (a) The Paying Agent and any successor Paying Agent, by written instrument delivered to the University shall accept the duties and obligations imposed on it under this Resolution and shall act on behalf of the Bondholders. Unless a separate Registrar is appointed by the Chief Financial Officer or the University Treasurer, the Paying Agent shall assume the duties and obligations imposed on the Registrar.
- Section 12.2 <u>Successor Paying Agents or Registrars</u>. Any bank or trust company authorized to do business in the Commonwealth may be appointed by the University as successor Paying Agent or Registrar hereunder and immediately upon acceptance of such appointment shall be deemed the successor of the Paying Agent or Registrar for the purposes of this Resolution. The University shall give notice to any Rating Agency of its appointment of any successor Paying Agent or Registrar. The reasonable fees and expenses of any such successor Paying Agent or Registrar shall be the sole obligation of the University and shall constitute a pledge of the Net Revenues prior to the Bonds, to the extent such fees and expenses are unpaid.
- Section 12.3 No Risk to Paying Agent Funds. No provision herein shall require the Paying Agent to expend its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of any of its rights or powers unless the Paying Agent shall have reasonable grounds for believing that repayment of such funds or adequate indemnity against such risk or liability is reasonably assured to it.
- **Section 12.4** Paying Agent/Registrar/Custodian Reliance and Other Matters. For purposes of this Section 12.4 only, the term "Paying Agent" shall refer to the Paying Agent, the Registrar and the Custodian. The Paying Agent undertakes to perform only such duties as are expressly set forth herein. The duties and responsibilities of the Paying Agent hereunder shall be

determined solely by the express provisions of the Resolution, and no further duties or responsibilities shall be implied. The Paying Agent shall not have any liability under, nor duty to inquire into the terms and provisions of, any agreement or instructions, other than as outlined in the Resolution. The Paying Agent may consult with counsel and may rely conclusively and shall be protected in acting or refraining from acting upon any written notice, electronically transmitted communication, instruction or request furnished to it hereunder and believed by it to be genuine and to have been signed or presented by the proper party or parties. The Paying Agent shall be under no duty to inquire into or investigate the validity, accuracy or content of any such document. The Paying Agent shall have no duty to solicit any payments that may be due it hereunder. The Paying Agent shall not be liable for any action taken or omitted by it in good faith unless a court of competent jurisdiction determines that any loss to the University was the result of the Paying Agent's negligent or willful misconduct. The Paying Agent shall not incur any liability for following the instructions herein contained or expressly provided for, or written instructions given by the University. In the administration of its duties under the Resolution, the Paying Agent may execute any of its powers and perform its duties hereunder directly or through agents or attorneys and may consult with counsel, accountants and other skilled persons to be selected and retained by it. The Paying Agent shall not be liable for anything done, suffered or omitted in good faith by it in accordance with the advice or opinion of any such counsel, accountants or other skilled persons. The Paying Agent may resign and be discharged of its duties and obligations hereunder by giving notice in writing of such resignation specifying a date when such resignation shall take effect. Any corporation or association into which the Paying Agent in its individual capacity may be merged or converted or with which it may be consolidated, or any corporation or association resulting from any merger, conversion or consolidation to which the Paying Agent in its individual capacity shall be a party, or any corporation or association to which all or substantially all the corporate trust business of the Paying Agent in its individual capacity may be sold or otherwise transferred, shall be the Paying Agent hereunder without further act. The University covenants and agrees to pay the Paying Agent its fees and expenses (including reasonable attorney's fees, costs and expenses) as agreed upon by the University and the Paying Agent. Furthermore, the University shall pay the Paying Agent for any extraordinary services or expenses performed or incurred by the Paying Agent in connection with its duties under the Resolution provided the University consents in writing prior to the performance of such services or the incurring of such expenses.

The Paying Agent shall not be responsible or liable for any failure or delay in the performance of its obligation under the Resolution arising out of or caused, directly or indirectly, by circumstances beyond its reasonable control, including, without limitation, acts of God, earthquakes, fire, flood, hurricanes or other storms; wars, terrorism, similar military disturbances; sabotage; epidemic, riots, interruptions; loss or malfunctions of utilities, computer (hardware or software) or communications services; accidents; labor disputes; acts of civil or military authority or governmental action; it being understood that the Paying Agent shall use commercially reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as reasonably practicable under the circumstances.

The Paying Agent shall have the right to accept and act upon instructions, including funds transfer instructions ("Instructions") given pursuant to the Resolution and delivered using Electronic Means; provided, however, that the University shall provide to the Paying Agent an incumbency certificate listing Authorized Officers and containing specimen signatures of such

Authorized Officers, which incumbency certificate shall be amended by the University whenever a person is to be added or deleted from the listing. If the University elects to give the Paying Agent Instructions using Electronic Means and the Paying Agent in its discretion elects to act upon such Instructions, the Paying Agent's understanding of such Instructions shall be deemed controlling. The University understands and agrees that the Paying Agent cannot determine the identity of the actual sender of such Instructions and that the Paying Agent shall conclusively presume that directions that purport to have been sent by an Authorized Officer listed on the incumbency certificate provided to the Paying Agent have been sent by such Authorized Officer. The University shall be responsible for ensuring that only Authorized Officers transmit such Instructions to the Paying Agent and that the University and all respective Authorized Officers are solely responsible to safeguard the use and confidentiality of applicable user and authorization codes, passwords and/or authentication keys upon receipt by the University. The Paying Agent shall not be liable for any losses, costs or expenses arising directly or indirectly from the Paying Agent's reliance upon and compliance with such Instructions notwithstanding such directions conflict or are inconsistent with a subsequent written instruction. The University agrees: (i) to assume all risks arising out of the use of Electronic Means to submit Instructions to the Paying Agent, including without limitation the risk of the Paying Agent acting on unauthorized Instructions, and the risk of interception and misuse by third parties; (ii) that it is fully informed of the protections and risks associated with the various methods of transmitting Instructions to the Paying Agent and that there may be more secure methods of transmitting Instructions than the method(s) selected by the University; (iii) that the security procedures (if any) to be followed in connection with its transmission of Instructions provide to it a commercially reasonable degree of protection in light of its particular needs and circumstances; and (iv) to notify the Paying Agent immediately upon learning of any compromise or unauthorized use of the security procedures.

"Electronic Means" shall mean the following communications methods: e-mail, facsimile transmission, secure electronic transmission containing applicable authorization codes, passwords and/or authentication keys issued by the Paying Agent, or another method or system specified by the Paying Agent as available for use in connection with its services hereunder.

ARTICLE XIII

MISCELLANEOUS PROVISIONS

Section 13.1 <u>Effect of Covenants</u>. All covenants, stipulations, obligations and agreements of the University and the Board contained in this Resolution shall be deemed to be covenants, stipulations, obligations and agreements of the University and the Board to the full extent authorized by the Act or permitted by the Constitution of Virginia. All such covenants, stipulations, obligations and agreements shall be binding upon the successor or successors thereof from time to time and upon any officer, board, body or commission to whom or to which any power or duty affecting such covenants, stipulations, obligations and agreements shall be transferred by or in accordance with law.

No covenant, stipulation, obligation or agreement herein contained shall be deemed to be a covenant, stipulation, obligation or agreement of any present or future director, member, agent

or employee of the University or the Board in his or her individual capacity, and no member of the Board or of any agency of the Commonwealth nor any officer thereof or of the University, present or future, executing the Bonds shall be liable personally on the Bonds or be subject to any personal liability or accountability by reason of the issuance thereof.

- Section 13.2 <u>Successor Paying Agents or Registrars</u>. Any bank or trust company authorized to do business in the Commonwealth may be appointed by the University as successor Paying Agent or Registrar hereunder and immediately upon acceptance of such appointment shall be deemed the successor of the Paying Agent or Registrar for the purposes of this Resolution. The University shall give notice to any Rating Agency of its appointment of any successor Paying Agent or Registrar. The reasonable fees and expenses of any such successor Paying Agent or Registrar shall be the sole obligation of the University and shall constitute a pledge of the Revenues prior to the Bonds, to the extent such fees and expenses are unpaid.
- Section 13.3 <u>Manner of Giving Notice</u>. Any notice, demand, direction, request or other instrument authorized or required by this Resolution to be given or to be filed with the University, the Paying Agent, the Registrar, the Custodian or the Rating Agencies shall be deemed to have been sufficiently given or filed for all purposes of this Resolution if and when sent by registered mail, return receipt requested:
 - (a) to the University, if addressed to the Board of Visitors of Virginia Polytechnic Institute and State University, 220 Burrus Hall, 800 Drillfield Drive, Blacksburg, Virginia 24061, Attention: Chief Financial Officer and University Treasurer;
 - (b) to the Custodian, Paying Agent and/or Registrar, if addressed to The Bank of New York Mellon Trust Company, N.A., 525 William Penn Place, 38th Floor, Pittsburgh, Pennsylvania 15259, Attention: Corporate Trust Administration;
 - (c) to Moody's, if addressed to Moody's Investor Services, 7 World Trade Center, 250 Greenwich Street, New York, New York 10007, Attention: Structured Finance, Telecopier: (212) 298-6442;
 - (d) to S&P, if addressed to Standard & Poor's, at 55 Water Street, 38th Floor, New York, New York 10041, Attention: Public Finance Department (Surveillance), Telecopier: (212) 438-2152; and
 - (e) to Fitch, if addressed to Fitch Ratings, One State Street Plaza, New York, New York 10004, Attention: Municipal Structured Finance Group, Telecopier: (212) 635-0466.
- Section 13.4 <u>Alternative Notice</u>. If, because of the temporary or permanent suspension of publication of any newspaper or financial journal or suspension of the mails or for any other reason, the University, the Paying Agent or the Custodian shall be unable to give any notice required to be published or mailed by the provisions of this Resolution, the University, the Paying Agent or the Custodian, as the case may be, shall give such notice in such other manner as in the judgment of the University, the Paying Agent or the Custodian shall most effectively approximate such publication thereof, and the giving of such notice in such manner shall for all

purposes of this Resolution be deemed to be compliance with the requirement for the publication thereof.

Section 13.5 <u>Effect of Partial Invalidity</u>. In case any one or more of the provisions of this Resolution or of the Bonds issued hereunder shall for any reason be held to be illegal or invalid, such illegality or invalidity shall not affect any other provision of this Resolution or of said Bonds, but this Resolution and said Bonds shall be construed and enforced as if such illegal or invalid provision had not been contained therein. In case any covenant, stipulation, obligation or agreement contained in the Bonds or in this Resolution shall for any reason be held to be in violation of law, then such covenant, stipulation, obligation or agreement shall be deemed to be the covenant, stipulation, obligation or agreement of the University to the full extent permitted by law.

Section 13.6 Governing Law. This Resolution is adopted with the intent that the laws of the Commonwealth shall govern its construction without regard to conflict of law principles.

Section 13.7 Repeal of Inconsistent Provisions. Any prior resolutions or provisions of resolutions of the Board inconsistent with any provisions of this Resolution are hereby repealed.

Section 13.8 [Reserved].

Section 13.9 Effective Date of this Resolution. This Resolution shall become effective subsequent to its adoption by the Board on the date as determined by an Authorized Officer of the University, any of whom may act, which shall be (a) no earlier than the date as of which the University has received the written consents thereto of the Governor and the Treasury Board of the Commonwealth, and (b) no later than the Business Day on which the first Series of Bonds is issued hereunder.

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VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

SERIES	RESOLUTION

AUTHORIZING AND SECURING UTILITY SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015D

ADOPTED ON AUGUST 31, 2015

EFFECTIVE ON ______, 2015, THE DATE SPECIFIED IN SECTION 6.6

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Exhibit A – Form of Bonds

A SERIES RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY UTILITY SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015D, TO PAY A PORTION OF THE COST OF IMPROVING THE LANE SUBSTATION; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF AND THE INTEREST ON SUCH BONDS CERTAIN GENERAL REVENUES AND THE NET REVENUES OF THE UNIVERSITY'S UTILITY SYSTEM AS PROVIDED HEREIN; AWARDING THE BONDS; APPOINTING THE PAYING AGENT.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth of Virginia which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.
- D. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.
- E. The Board has adopted an amended and restated resolution providing for the issuance of utility system revenue bonds pursuant to the Act (the "Master Resolution").
- F. The Board has heretofore determined to make improvements to the Lane Substation to allow for additional electricity distribution capacity to support ongoing development of both the University's campus and corporate research center (the "Project"), which will become a part of the University's Utility System (the "System").
 - G. The Board has determined that the Project may be financed under the Act.
- H. For the purpose of providing funds to finance a portion of the costs of the Project and costs to be incurred in connection with the issuance thereof, the Board has determined to

issue utility system and general revenue pledge bonds of the University (the "Bonds") under the Master Resolution pursuant to this Series Resolution.

- I. The Board has ascertained (a) the estimated annual revenues to be derived by the University from its operation and ownership of the System based on the fees, rents and charges to be fixed, charged and collected for or in connection with the use, occupation or services of the facilities comprising the System, and (b) the estimated annual expenses of maintaining, repairing and operating the System, and has determined that sufficient revenues will be derived from its operation and ownership of the System, after the payment of such expenses of maintenance, repair and operation to pay the principal of and the interest on the Bonds hereinafter authorized to be issued under this Series Resolution and to meet other requirements of this Series Resolution and the Master Resolution.
- J. The Board has determined that the Bonds will also be secured by a pledge of certain general revenues of the University as contemplated by the Act and as more particularly described herein.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF VISITORS OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY:

ARTICLE I DEFINITIONS

Section 1.1 <u>Definitions.</u> Unless otherwise required by the context, all terms used herein which are defined in the Master Resolution or in the Recitals hereto shall have the meanings assigned to them therein. These additional terms shall have the following meanings:

"Bonds" means the University's Utility System and General Revenue Pledge Bonds, Series 2015D, issued pursuant to this Series Resolution under the Master Resolution.

"Business Day" means a day other than (i) a Saturday, Sunday or other day on which banking institutions in the Commonwealth or the city in which the Designated Office of the Paying Agent is located are authorized or required by law to close or (ii) a day on which the New York Stock Exchange is closed.

"DTC" means The Depository Trust Company and any successor company.

"Fitch" means Fitch Ratings, a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "Fitch" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

"Interest Payment Date" means June 1, 2016, and each June 1 and December 1 thereafter (unless such date is not a Business Day, in which event payment of interest shall be made on the next succeeding Business Day).

"Master Resolution" means that Amended and Restated Resolution providing for the issuance of utility system revenue bonds, adopted by the Board on August 31, 2015, as it may be supplemented and amended.

"Moody's" means Moody's Investors Service, Inc., a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "Moody's" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

"Parity Credit Obligation" means any Credit Obligation of the University which may be incurred in accordance with the terms of this Series Resolution or has been incurred that is secured on a parity with the pledge of Pledged General Revenues herein, including, without limitation, all other bonds being issued by the University on the date of initial issuance of the Bonds.

"Parity Pledged General Revenue Interest Rate Agreement" shall mean any Interest Rate Agreement, any portion of the payments by the University under which is on a parity as to right to payment from Pledged General Revenues, and is equally and ratably secured by a pledge of such Pledged General Revenues, with the holders of the Bonds.

"Parity Pledged General Revenue Swap Obligations" shall mean the amounts payable by the University to the Hedge Provider pursuant to a Parity Pledged General Revenue Interest Rate Agreement that, as specified in the Parity Pledged General Revenue Interest Rate Agreement, are on a parity as to right to payment from Pledged General Revenues, and are equally and ratably secured by a pledge of such Pledged General Revenues, with the holders of the Bonds.

"Pledged General Revenues" means any or all of the revenues now or hereafter available to the University which are not required by law, by binding contract entered into prior to the date of this Series Resolution or by the provisions of any Qualifying Senior Obligation to be devoted to some other purpose, and shall include, without limitation, all revenues pledged to the payment of any Qualifying Senior Obligation net of amounts necessary to pay it or any operating or other expenses, the payment of which is required or permitted to be made with such revenues prior to the payment of such Qualifying Senior Obligation.

"Qualifying Senior Obligation" means any existing Credit Obligation other than a Parity Credit Obligation secured by a pledge of any portion of the Pledged General Revenues, and any additional Credit Obligation issued pursuant to Section 4.2(b) or 4.2(c) or to refund any Qualifying Senior Obligation as described in Section 4.2(e).

"Rating Agency" means Moody's, S&P and/or Fitch, if any or all of such rating agencies have provided a rating for the Bonds. If any such corporation ceases to act as a securities rating agency, the University may appoint any nationally recognized securities rating agency as a replacement.

"Record Date" means the 15th day of the month preceding each Interest Payment Date, whether or not such 15th day is a Business Day.

"Resolution" means the Master Resolution, as supplemented by this Series Resolution, together with all supplements and amendments thereto.

"Securities Depository" means DTC and any other securities depository for the Bonds appointed pursuant to Section 2.7.

"Series Resolution" means this Series Resolution, together with all supplements and amendments hereto.

"S&P" means Standard & Poor's, a Division of The McGraw-Hill Companies, a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such division shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "S&P" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

"Underwriters" mean a group of underwriters managed or co-managed by Merrill Lynch, Pierce, Fenner & Smith Incorporated, Davenport & Company, LLC, Morgan Stanley & Co., LLC, and Wells Fargo Bank, National Association.

ARTICLE II FORM, EXECUTION, DELIVERY, REGISTRATION AND PAYMENT OF BONDS; TAX COVENANTS

Section 2.1 Form of Bonds. The Bonds issued under the provisions of Section 2.2 shall be substantially in the form set forth in Exhibit A attached hereto, with such appropriate variations, omissions or insertions as are permitted or required by the Resolution.

Section 2.2 <u>Issuance of Bonds</u>. There shall be initially issued under and secured by the Resolution, Bonds of the University in the aggregate principal amount of \$4,600,000 for the purpose of providing funds to finance a portion of the Cost of the Project. The Bonds shall be designated "Virginia Polytechnic Institute and State University Utility System and General Revenue Pledge Bonds, Series 2015D", shall be dated their date of initial issuance, shall be numbered R-1 and up, shall be issued in denominations of \$5,000 or whole multiples of \$5,000 and shall mature on June 1 in such amounts and in such years as will be determined by the Chief Financial Officer or the University Treasurer prior to the issuance of the Bonds. The Bonds shall bear interest at the rate or rates to be approved by the Chief Financial Officer or the University Treasurer, with a true interest cost not to exceed 5.00% per annum. The execution of the Bonds by the University's President and by the Chief Financial Officer or the University Treasurer shall be conclusive evidence of the requisite approval of the maturity schedule (including any mandatory sinking fund redemption schedule) and the rate or rates payable on the Bonds.

Interest on the Bonds shall be payable on each Interest Payment Date. Each Bond shall bear interest from the Interest Payment Date next preceding the date on which it is authenticated, unless any Bond is (a) authenticated before the first Interest Payment Date following the initial delivery of the Bonds, in which case it shall bear interest from its dated date or (b) authenticated upon an Interest Payment Date, in which case it shall bear interest from such Interest Payment

Date; provided, however, that if at the time of authentication of any Bond interest is in default, such Bond shall bear interest from the date to which interest has been paid.

- **Section 2.3** Computation of Interest. Interest on the Bonds shall be computed on the basis of a 360-day year of twelve 30-day months and shall be payable on each Interest Payment Date or other date fixed for the redemption or maturity of the Bonds.
- Section 2.4 Payment of Interest on and Principal of Bonds. Principal of and premium, if any, and interest on the Bonds shall be payable in lawful money of the United States of America, but only from the revenues lawfully available therefor pursuant to the Act and pledged to the payment thereof as hereinafter provided. Principal of and premium, if any, on the Bonds shall be payable upon presentation and surrender of the Bonds as they become due at the Designated Office of the Paying Agent. Interest on Bonds shall be payable to the registered owners of Bonds by check or draft mailed to such owners at their addresses as they appear on registration books kept by the bond registrar on the 15th day of the month preceding the applicable Interest Payment Date.
- Section 2.5 Payments to Bondholders. The University shall, at appropriate times on or before each Interest Payment Date or date on which principal of the Bonds comes due, whether by redemption or maturity, determine the amount required to pay principal of, redemption premium, if any, and interest on the Bonds then coming due and whether there are sufficient amounts available in the Debt Service Fund (such moneys are referred to as the "Sinking Fund Moneys Available for Payment") to pay the principal of, redemption premium, if any, and interest on the Bonds then coming due. If such Sinking Fund Moneys Available for Payment are determined by the University to be insufficient to make such payment then coming due on the Bonds, the University shall make available to the Paying Agent from Revenues or from Pledged General Revenues or other available moneys referred to in Section 7.14 of the Master Resolution, not later than 10:00 a.m., New York time, on the date such sums are due, an amount, which when added to the Sinking Fund Moneys Available for Payment, will be sufficient to pay the principal of, redemption premium, if any, and interest on the Bonds then coming due, and the Paying Agent shall pay or cause the same to be paid to the holders of the Bonds when due.
- Section 2.6 <u>Application of Proceeds of Bonds</u>. The proceeds from the sale of the Bonds shall be deposited into the Construction Fund to be used in accordance with the Master Resolution to pay the Cost of the Project and the costs of issuing the Bonds.
- **Section 2.7** <u>Book Entry Provisions</u>. The provisions of this Section 2.7 shall apply to the Bonds so long as all of the Bonds shall be maintained in book-entry form with a Securities Depository, any other provisions of this Series Resolution to the contrary notwithstanding.
- (a) The principal or redemption price of and interest on the Bonds shall be payable to the Securities Depository, or registered assigns, as the registered owner of the Bonds, in same day funds on each date on which the principal of, and premium, if any, or interest on the Bonds is due as set forth in this Series Resolution and in the Bonds. Such payments shall be made to the offices of the Securities Depository specified by the Securities Depository to the University and Paying Agent in writing. Without notice to or the consent of the beneficial owners of the

Bonds, the University and the Securities Depository may agree in writing to make payments of principal and interest in a manner different from that set out herein. If such different manner of payment is agreed upon, the University shall give the Paying Agent written notice thereof, and the Paying Agent shall make payments as if set forth herein. Neither the University nor the Paying Agent shall have any obligation with respect to the transfer or crediting of the appropriate principal, premium, if any, and interest payments to participants of the Securities Depository or the beneficial owners of the Bonds or their nominees.

- (b) The Paying Agent, at the written direction of the University, may replace any Securities Depository as the depository for the Bonds with another qualified Securities Depository or discontinue the maintenance of the Bonds in book-entry form at any time if the University determines to do so. Notice of any determination above shall be given to such Securities Depository at least 30 days prior to any such discontinuation (or such fewer number of days as shall be acceptable to such Securities Depository). The University may undertake to locate a qualified replacement Securities Depository and/or may discontinue the book-entry system of evidencing ownership of the Bonds.
- (c) If the University discontinues the maintenance of the Bonds in book-entry form, the University will issue replacement Bonds directly to the participants in the former Securities Depository or, to the extent requested by any such participant, to the beneficial owners of Bonds as further described in this Section. The Paying Agent, at the written direction of the University, shall notify participants and the beneficial owners of the Bonds, by mailing an appropriate notice to the Securities Depository, or by other means deemed appropriate by either the Securities Depository or the Paying Agent, that the University will issue replacement Bonds directly to the participants shown on the records of the Securities Depository or, to the extent requested by any participant, to beneficial owners of the Bonds shown on the records of such participant, as of a date set forth in such notice, which shall be a date at least 10 days after receipt of such notice by the Securities Depository (or such fewer number of days as shall be acceptable to the Securities Depository).

In the event that replacement Bonds are to be issued to participants in the Securities Depository or to beneficial owners of the Bonds, the University shall promptly have prepared replacement Bonds registered in the names of the participants as shown on the records of the former Securities Depository or, to the extent requested by any participant, in the names of the beneficial owners of Bonds shown on the records of such participant, as of the date set forth in the notice delivered in accordance with the immediately preceding paragraph. Replacement Bonds issued to participants in the Securities Depository or to beneficial owners shall be in fully registered form substantially in the form of Exhibit A. The form set forth in Exhibit A may be modified to include any variations, omissions or insertions that are necessary or desirable in the delivery of replacement certificates in printed form. In delivering replacement certificates, the Paying Agent shall be entitled to rely, without independent investigation, on the records of the former Securities Depository as to its participants and the records of the participants acting on behalf of the beneficial owners. The Bonds will thereafter be registrable and exchangeable as set forth in the Master Resolution.

(d) So long as there is a Securities Depository for the Bonds, (1) such Securities Depository shall be the registered owner of the Bonds, (2) transfers of ownership and exchanges

shall be effected on the records of the Securities Depository and its participants pursuant to rules and procedures established by such Securities Depository and its participants, and (3) references in this Series Resolution to Bondholders, holders or registered owners of the Bonds shall mean the Securities Depository and shall not mean the beneficial owners of the Bonds.

- (e) If the University replaces any Securities Depository as the depository for the Bonds with another qualified Securities Depository, replacement Bonds issued to such replacement Securities Depository shall have the same terms, form and content as the Bonds initially registered in the name of the predecessor Securities Depository or its nominee except for the name of the registered owner.
- (f) Each Securities Depository and the participants thereof and the beneficial owners of the Bonds, by their acceptance of the Bonds, agree that the University and the Paying Agent shall have no liability or responsibility with respect to (1) the accuracy of any records maintained by such Securities Depository or any Securities Depository participant; (2) the payment by such Securities Depository to any Securities Depository participant or by any Securities Depository participant to any beneficial owner of any amount due in respect of the principal of and premium, if any, and interest on the Bonds; (3) the delivery or timeliness of delivery by such Securities Depository to any Securities Depository participant or by any Securities Depository participant to any beneficial owner of any notice which is given to Bondholders; (4) the selection of the beneficial owners to receive payment in the event of any partial redemption of the Bonds; or (5) any consent given or other action taken by such Securities Depository or any nominee of such Securities Depository, as Bondholder.
- Section 2.8 Tax Covenants. (a) The University shall not use or permit the use of any proceeds of Bonds or any other funds of the University directly or indirectly, to acquire any securities or obligation, and shall not use or permit the use of any amounts received by the University or the Custodian with respect to the Bonds in any manner, and shall not take or permit to be taken any other action or actions, which would cause any Bond to be an "arbitrage bond" within the meaning of Section 148 of the Code. If at any time the University is of the opinion that for purposes of this subsection it is necessary to restrict or limit the yield on the investment of any moneys held or controlled by it under this Series Resolution, the University shall so instruct the Custodian, any trustee or the Paying Agent in writing, and the Custodian, trustee or Paying Agent shall take such action as may be reasonably necessary in accordance with such instructions.
- (b) The University shall not use or permit the use of any proceeds of Bonds or any other funds of the University, directly or indirectly, in any manner, and shall not take or permit to be taken any other action or actions, which would result in any of the Bonds being treated as an obligation not described in Section 103(a) of the Code by reason of classification of such Bond as a "private activity bond," an "arbitrage bond" or "bond not in registered form" within the meaning of Section 103(b) of the Code.
- (c) The University shall at all times do and perform all acts and things permitted by law and this Series Resolution which are necessary or desirable in order to assure that interest paid on the Bonds or any of them will be excludable from gross income for federal income tax

purposes and shall take no action that would result in such interest not being excludable from gross income for federal income tax purposes.

- (d) The University covenants that no more than 10% of the space in the Project will be leased to or used exclusively by a private entity nor will more than 10% of the revenues to be derived from the Project be payable, directly or indirectly, by a private entity.
- (e) The University covenants that it shall file the information reports with respect to the Bonds required by Section 149(e) of the Code (currently Form 8038-G) within the time periods provided in such Section.
- (f) The University represents that the Bonds are not and will not be "federally guaranteed," as such term is used in Section 149(b) of the Code.
- (g) Notwithstanding the foregoing, the University may amend this section or alter or eliminate any actions or restrictions allowed or required by this section, if it receives an opinion of Bond Counsel that such amendments, alterations or eliminations would not alter the Bondholders' U.S. federal income tax treatment of principal and interest payments on the Bonds.
- Section 2.9 Arbitrage Rebate. The University, at its expense, shall take all steps necessary to cause the requirements of Section 148 of the Code to be complied with, including but not limited to all reporting and rebate requirements. Without limiting the generality of the foregoing the University, at its sole expense, shall: (i) pay the amount required to be paid to the United States of America in accordance with the rebate requirement described in Section 148(f) of the Code (the "Rebate Amount"); (ii) determine the Rebate Amount for each bond year and upon payment in full of all amounts due under the Bonds; (iii) retain records of all such determinations until six years after payment in full of all amounts due under the Bonds; and (iv) comply with any similar requirements contained in any temporary, proposed or permanent regulations of the Internal Revenue Service adopted with respect to Section 148(f) of the Code.

Notwithstanding anything to the contrary in this Series Resolution, no payment shall be made by the University to the United States of America if the University obtains an opinion of Bond Counsel to the effect that such payment is not required under Section 148 of the Code in order to prevent the Bonds from becoming "arbitrage bonds."

ARTICLE III REDEMPTION OF BONDS

Section 3.1 Redemption of Bonds. (a) The Bonds issued under the provisions of this Series Resolution shall not be subject to prior redemption except as provided in this Article III and as set forth in the form of the Bonds contained in Exhibit A. Subject to applicable procedures of the Securities Depository while the Bonds are held in book-entry only form by the Securities Depository, and except as otherwise provided in the case of extraordinary redemption of the Bonds in accordance with subsection (c) below, if less than all of the Bonds shall be called for redemption, the Bonds to be redeemed shall be selected by the University in such manner as the University in its discretion may determine.

- (b) The Bonds shall be subject to optional and mandatory redemption as set forth in the form of the Bonds contained in Exhibit A. The Bonds that may be subject to optional redemption, the redemption premiums, if any, due upon an optional redemption and the mandatory sinking fund redemption schedule, if any, shall be as approved by the Chief Financial Officer or the University Treasurer prior to the issuance of the Bonds. The execution of the Bonds by the University's President and by the Chief Financial Officer or the University Treasurer shall be conclusive evidence of his approval of such matters.
- (c) The Bonds shall also be subject to redemption in whole or in part on any date, at the option of the University, from the proceeds of casualty insurance or condemnation awards, at a redemption price equal to 100% of the principal amount thereof to be redeemed, without premium, plus accrued interest to the redemption date, if all or any part of the Project financed with the Bonds is damaged or destroyed or taken through the exercise of the power of eminent domain and an Authorized Officer has delivered a certificate to the Custodian to the effect that the University has determined not to use such proceeds to replace or rebuild the damaged, destroyed or taken property. In the event of a redemption in part pursuant to this paragraph, the University shall redeem the Bonds from each maturity then outstanding, to the extent practicable, in the proportion that the principal amount of the Bonds of such maturity bears to the total principal amount of the Bonds then outstanding.
- (d) At its option, to be exercised on or before the fortieth day next preceding any applicable sinking fund redemption date, the University may receive a credit against its mandatory sinking fund redemption obligation for the Bonds which prior to such date have been purchased by the University and presented to the Paying Agent for cancellation or redeemed (otherwise than through the operation of the sinking fund) and canceled by the Paying Agent and, in either case, not theretofore applied as a credit against any sinking fund redemption obligation.

Each Bond so purchased, delivered or previously redeemed shall be credited by the Paying Agent at 100% of the principal amount thereof against the obligation of the University on such sinking fund redemption date to redeem Bonds. Any excess over such obligation shall be credited against applicable future sinking fund redemption obligations, or deposits with respect thereto, in such order of maturity as shall be determined by the University, and the principal amount of such Bonds to be redeemed by operation of the sinking fund shall be accordingly reduced.

Section 3.2 Notice of Redemption. (a) Whenever Bonds are to be redeemed under the provisions of the Resolution, the Paying Agent shall, not less than 30 nor more than 60 days prior to the redemption date, mail notice of redemption to all registered owners of all Bonds to be redeemed at their registered addresses. The Paying Agent shall also mail a copy of any such notice of redemption to any Rating Agency. Any such notice of redemption shall be given in the name of the University, shall identify the Bonds to be redeemed, shall specify the redemption date and the redemption price, and shall state that on the redemption date the Bonds called for redemption will be payable at the office of the Paying Agent and that from that date interest will cease to accrue. The Paying Agent may use "CUSIP" numbers in notices of redemption as a convenience to Bondholders, provided that any such notice shall state that no representation is

made as to the correctness of such numbers either as printed on the Bonds or as contained in any notice of redemption.

If at the time of mailing of notice of any optional redemption the University shall not have caused to be deposited with the Paying Agent moneys sufficient to redeem all the Bonds called for redemption, such notice may state that it is conditional in that it is subject to the deposit of the redemption moneys with the Paying Agent not later than the redemption date, and such notice shall be of no effect unless such moneys are so deposited. Failure by the Paying Agent to give any notice of redemption or any defect in such notice as to any particular Bonds shall not affect the validity of the call for redemption of any Bonds in respect of which no such failure or defect has occurred. Any notice mailed as provided in this Series Resolution shall be conclusively presumed to have been given whether or not actually received by any holder.

ARTICLE IV GENERAL REVENUE PLEDGE; RELATED COVENANTS

- Section 4.1 <u>Pledge of Pledged General Revenues</u>. In addition to the pledge of Revenues securing the Bonds, the University hereby pledges its Pledged General Revenues to the payment of the principal, interest and premium on the Bonds.
- **Section 4.2** Additional Indebtedness and Encumbrances. The University may incur or issue other Credit Obligations payable from or secured by Pledged General Revenues only if the conditions set forth below in subsection (a), (b), (c) or (e) are met in each instance:
- <u>Limitation on Parity Credit Obligations</u>. All other Credit Obligations issued by the University on the date of issuance of the Bonds shall be Parity Credit Obligations insofar as Pledged General Revenues are concerned. The University may incur, assume, guarantee or otherwise become liable on any other Parity Credit Obligation, but only if, prior to the incurrence of each such Parity Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Parity Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Pledged General Revenue Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such Parity Credit Obligation and (B) the completion of any facility financed with the proceeds of such Parity Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Parity Credit Obligation, and (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of the Resolution. Any such Parity Credit Obligation shall be designated by the University as a Parity Credit Obligation and shall be secured by a pledge of Pledged General Revenues on a parity with the pledge of Pledged General Revenues herein, unless expressly subordinated to the pledge hereof.
- (b) <u>Limitation on Section 9(c) Credit Obligations</u>. The University may incur, assume, guarantee or otherwise become liable on any Credit Obligation pursuant to the

provisions of Article X, Section 9(c) of the Constitution of Virginia, as such section may be amended from time to time, and may pledge and apply such portion of the Pledged General Revenues as may be necessary to provide for the payment of any such Credit Obligation, the funding of reasonable reserves therefor, or the payment of operating and other reasonable expenses of the facilities financed in whole or in part with the proceeds of such Credit Obligation or facilities reasonably related to such facilities, but only if, prior to the incurrence of each such Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Pledged General Revenue Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such proposed Credit Obligation and (B) the completion of any facility financed with the proceeds of such proposed Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Credit Obligation, (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of the Resolution, and (3) in connection with the issuance of such proposed Credit Obligation, the University has received an opinion of Bond Counsel to the effect that such proposed Credit Obligation has been validly issued under Article X, Section 9(c) of the Constitution of Virginia. If any such Credit Obligation is designated by the University as a Qualifying Senior Obligation, the pledge of Pledged General Revenues securing such Credit Obligation as described above shall be senior and superior in all respects to the pledge of Pledged General Revenues securing the Bonds, any other Parity Credit Obligations and any Parity Pledged General Revenue Swap Obligations.

Limitation on Other Credit Obligations, Including Section 9(d) Credit Obligations. The University may incur, assume, guarantee or otherwise become liable on any Credit Obligation not described elsewhere in this Section 4.2, including any Credit Obligation incurred pursuant to the provisions of Article X, Section 9(d) of the Constitution of Virginia, as such section may be amended from time to time, and may pledge and apply such portion of the Pledged General Revenues as may be necessary for the payment of any such Credit Obligation, the funding of reasonable reserves therefor, or the payment of operating and other reasonable expenses of the facilities financed in whole or in part with the proceeds of such Credit Obligation or facilities reasonably related to such facilities, but only if, prior to the incurrence of each such Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Pledged General Revenue Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such proposed Credit Obligation and (B) the completion of any facility financed with the proceeds of such proposed Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Credit Obligation, (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of the Resolution, and (3) the

University has received an opinion of Bond Counsel to the effect that such proposed Credit Obligation has been validly issued under the relevant provisions of the Constitution of Virginia. If any such Credit Obligation is designated by the University as a Qualifying Senior Obligation, the pledge of Pledged General Revenues securing such Credit Obligation as described above shall be senior and superior in all respects to the pledge of Pledged General Revenues securing the Bonds, any other Parity Credit Obligations and any Parity Pledged General Revenue Swap Obligations.

- (d) <u>Limitation on Issuance of Indebtedness on a Parity with Qualifying Senior Obligations</u>. Except for Credit Obligations issued pursuant to subsections (b) or (c) above or to refund any Qualifying Senior Obligation as described in subsection (e) below, no additional bonds or other obligations may be issued or incurred by the University on a parity with any Qualifying Senior Obligation.
- (e) <u>Limitation on Issuance of other Credit Obligations or Additional Encumbrances</u>. The University shall not issue Credit Obligations payable from Pledged General Revenues or otherwise encumber the Pledged General Revenues in any manner (except as permitted in connection with Parity Pledged General Revenue Swap Obligations pursuant to Section 4.3 or Credit Obligations issued pursuant to subsections (a), (b) or (c) above or to refund any Qualifying Senior Obligation as described below), unless any such encumbrance is made junior and subordinate in all respects to the liens, pledges, covenants and agreements of this Series Resolution. Notwithstanding anything to the contrary herein, however, the University may issue bonds to refund any Qualifying Senior Obligation and to secure such refunding bonds with the same source of revenues securing the Qualifying Senior Obligation being refunded. Upon the defeasance of the refunded Qualifying Senior Obligation pursuant to any such refunding, the refunding bonds will be considered Qualifying Senior Obligations for all purposes.
- (f) <u>Credit Obligations Payable from System Revenues</u>. The issuance of Credit Obligations payable from Revenues of the System shall be as provided in the Master Resolution.
- **Section 4.3** <u>Interest Rate Agreements</u>. The University may enter into Interest Rate Agreements, the amounts payable by the University under which are on a parity, or are subordinate, as to right to payment from Pledged General Revenues with the Bonds. Each Parity Pledged General Revenue Interest Rate Agreement shall designate which payments thereon, whether regularly scheduled payments, termination payments or other payments, are on a parity with the holders of the Bonds as to the right to payment from Pledged General Revenues.
- Section 4.4 <u>Disposition of Assets</u>. The University may convey, sell or otherwise dispose of any property of the University as long as (1) such conveyance, sale or encumbrance is in the ordinary course of business, or (2) an Authorized Officer certifies in writing that, taking into account the conveyance, sale or other disposition of such property (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Interest Rate Agreements, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after such conveyance, sale or other disposition and (ii)

such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts due under all indebtedness of the University then outstanding.

- Section 4.5 <u>Insurance</u>. The University covenants that it will at all times carry or cause to be carried insurance policies with a responsible insurance company or companies, qualified to assume the risks thereof, or that it will maintain an adequate program of self-insurance, in either case sufficient to provide the University with insurance in such amount and covering such risks as the University shall deem to be reasonable and desirable.
- **Section 4.6** Rights of Bondholders Not to Be Impaired. Except as otherwise set forth in the Resolution, the University covenants that no contract or contracts will be entered into or any action taken which might impair or diminish the rights of the Bondholders.
- **Section 4.7** Further Instruments and Actions. The University covenants that it will, from time to time, execute and deliver such further instruments and take such further action as may be required to carry out the purposes of this Series Resolution.
- **Section 4.8** Accurate Records and Accounts. The University covenants that it will keep accurate records and accounts of all items of cost and of all expenditures relating to Pledged General Revenues collected and the application of such Pledged General Revenues.
- Section 4.9 <u>Recognized Accounting Principles</u>. The University covenants that all of the accounts and records of the University will be kept according to generally accepted accounting principles consistently applied.

ARTICLE V AMENDMENTS AND SUPPLEMENTS

- **Section 5.1** <u>Amendments to Series Resolution</u>. This Series Resolution may be amended or supplemented in a similar manner and upon similar terms and conditions as the Master Resolution may be amended or supplemented.
- Section 5.2 Amendments to Series Resolution Prior to Delivery of Bonds. On or prior to the delivery of the Bonds, the Chief Financial Officer or the University Treasurer may make such changes to, and complete any blanks in, this Series Resolution as shall be necessary to accurately reflect all negotiations among the University and the Underwriters with respect to the structuring of the financing, including, without limitation, the terms and provisions of the Bonds; provided, however, that no such amendment shall increase the principal amount of the Bonds by greater than 10%. On or prior to the delivery of the Bonds, the Chief Financial Officer or the University Treasurer shall deliver to the Secretary of the Board a copy of this Series Resolution with all of the changes and completions referred to in the preceding sentence (the "Final Resolution"), together with a certificate of the Chief Financial Officer or the University Treasurer to the effect that the resolution so delivered is the Final Resolution. The Secretary shall file such Final Resolution with the minutes of the meeting at which this Series Resolution is adopted. The certificate of the Chief Financial Officer or the University Treasurer referred to above shall be conclusive evidence that any changes made are approved and effective as if such Final Resolution were adopted by the Board.

ARTICLE VI MISCELLANEOUS

- **Section 6.1** Approval, Execution and Delivery of Necessary and Appropriate Documents. The Preliminary Official Statement of the University relating to the offering of the Bonds for sale, and the distribution thereof by the Underwriters, are hereby approved, ratified and confirmed. The Chief Financial Officer or the University Treasurer is authorized to "deem final" the Preliminary Official Statement as of its date, within the meaning of Rule 15c2-12 of the Securities and Exchange Commission. The Chief Financial Officer or the University Treasurer is also authorized to negotiate, execute and deliver and deem final, in necessary and appropriate form, the following documents:
- (a) a final Official Statement relating to the offering of the Bonds for sale, in substantially the form presented at the meeting at which this Series Resolution is adopted;
- (b) the Bond Purchase Agreement relating to the purchase of the Bonds, in substantially the form presented at the meeting at which this Series Resolution is adopted, such Bond Purchase Agreement to provide for a true interest cost not to exceed 5.00% per annum;
- (c) the University's Continuing Disclosure Agreement for the benefit of the Bondholders, in substantially the form presented at the meeting at which this Series Resolution is adopted; and
- (d) such other documents and instruments as he deems necessary or appropriate in connection with the issuance of the Bonds, so long as such documents and instruments do not conflict with the intent of this Series Resolution.
- **Section 6.2 Bond Delivery.** All directors, officers and employees of the University are hereby authorized to take all actions necessary to accomplish the delivery of the Bonds to the Underwriters.
- **Section 6.3** Governing Law. This Series Resolution is adopted with the intent that the laws of the Commonwealth shall govern its construction.
- **Section 6.4** Repeal of Inconsistent Provisions. Any prior resolutions or provisions of resolutions of the Board inconsistent with any provisions of this Series Resolution are hereby repealed.
- Section 6.5 <u>Effect of Partial Invalidity</u>. In case any one or more of the provisions of this Series Resolution or of the Bonds issued hereunder shall for any reason be held to be illegal or invalid, such illegality or invalidity shall not affect any other provision of this Series Resolution or of the Bonds, but this Series Resolution and the Bonds shall be construed and enforced as if such illegal or invalid provision had not been contained therein. In case any covenant, stipulation, obligation or agreement contained in the Bonds or in this Series Resolution shall for any reason be held to be in violation of law, then such covenant, stipulation, obligation or agreement shall be deemed to be the covenant, stipulation, obligation or agreement of the University to the full extent permitted by law.

Section 6.6 <u>Effective Date of this Series Resolution</u>. This Series Resolution shall become effective subsequent to its adoption by the Board on the date as determined by an Authorized Officer of the University, any of whom may act, which shall be no earlier than the effective date of the Master Resolution.

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No.		

UNITED STATES OF AMERICA COMMONWEALTH OF VIRGINIA

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

UTILITY SYSTEM AND GENERAL REVENUE PLEDGE BOND, SERIES 2015D

INTEREST RATE	MATURITY DATE June 1,	DATED DATE October, 2015	CUSIP
REGISTERED OWNER:			
PRINCIPAL AMOUNT.		DOLLARS	2 (\$

Virginia Polytechnic Institute and State University (the "University"), the educational institution at Blacksburg, Virginia, for value received, hereby promises to pay, solely from the funds provided therefor as hereinafter set forth, to the registered owner named above, on the maturity date set forth above (or earlier as hereinafter set forth), upon the presentation and surrender hereof, the principal sum set forth above and to pay, solely from said funds, interest thereon from the date hereof at the rate per annum set forth above, until payment of said principal sum. Both the principal of and the interest on this Bond are payable in any coin or currency of the United States of America which on the respective dates of payment thereof is legal tender for the payment of public and private debts. The principal or redemption price of this Bond shall be payable, upon surrender of this Bond, at the office of The Bank of New York Mellon Trust Company, N.A., Pittsburgh, Pennsylvania, as Paying Agent (the "Paying Agent"), or at the designated corporate trust office of any successor Paying Agent appointed pursuant to the Series Resolution (hereinafter defined). Payment of interest on this Bond shall be made by check or draft mailed on the Interest Payment Date to the registered owner as of the close of business on the 15th day of the month immediately preceding such Interest Payment Date (the "Record Date") at his address as it appears on the registration books of The Bank of New York Mellon Trust Company, N.A., Pittsburgh, Pennsylvania, as Registrar (the "Registrar"), or any successor Registrar appointed pursuant to the Series Resolution. Notwithstanding the foregoing, if and for so long as Cede & Co. or any other nominee of The Depository Trust Company, New York, New York, is registered owner of all of the Bonds, the principal of and premium, if any, on this Bond shall be paid to Cede & Co. or such other nominee as provided under the Series Resolution. The term "Interest Payment Date" means each December 1 and June 1, commencing June 1, 2016 (unless such date is not a Business Day, in which event payment of interest shall be made on the next succeeding Business Day).

This Bond shall bear interest from the Interest Payment Date next preceding the date on which it is authenticated, unless this Bond is (a) authenticated before the first Interest Payment Date following the initial delivery of the Bonds, in which case it shall bear interest from its dated

date or (b) authenticated upon an Interest Payment Date, in which case it shall bear interest from such Interest Payment Date; provided, however, that if at the time of authentication of this Bond interest is in default, this Bond shall bear interest from the date to which interest has been paid. Interest on this Bond shall be computed on the basis of a 360-day year of twelve 30-day months.

The University shall not be obligated to pay the principal of or interest on this Bond except from the Pledged General Revenues and the Net Revenues of the University's Utility System and other legally available moneys, all as provided in the Resolution hereinafter referred to. This Bond and the interest hereon shall not be deemed to constitute a debt or liability of the Commonwealth of Virginia, legal, moral or otherwise. Neither the Commonwealth of Virginia nor the University shall be obligated to pay the principal of or interest on this Bond or other costs incident thereto except from the sources noted above, and neither the faith and credit nor the taxing power of the Commonwealth of Virginia nor any other revenues or funds of the University are pledged to the payment of the principal of or interest on this Bond or other costs incident thereto.

This Bond is one of a duly authorized issue of Bonds of the University aggregating in principal amount, known as "Utility System and General Revenue Pledge Bonds, Series 2015D" (the "Bonds"), issued under and pursuant to a resolution adopted by the Board of Visitors of the University (the "Board") on August 31, 2015 (the "Master Resolution"), as supplemented by a Series Resolution adopted by the Board on August 31, 2015 (the "Series Resolution") (said Master Resolution, as supplemented, being herein called the "Resolution"). This Bond is issued and the Resolution was adopted under and pursuant to the Constitution and laws of the Commonwealth of Virginia, particularly Chapter 4.10, Title 23, Code of Virginia of 1950, as amended (herein called the "Act") to finance the costs of improvements to the Lane Substation at the University (the "Project"). Reference is hereby made to the Resolution for the provisions, among others, with respect to the custody and application of the proceeds of Bonds issued under the Resolution, the collection and disposition of revenues, the funds charged with and pledged to the payment of the interest on and the principal of the Bonds, the nature and extent of the security, the terms and conditions on which the Bonds are or may be issued, the rights, duties and obligations of the University and the rights of the holders of the Bonds. Capitalized terms not defined herein shall be as defined in the Resolution. By the acceptance of this Bond, the holder hereof assents to all of the provisions of the Resolution.

The Resolution provides for the issuance from time to time, under the conditions, limitations and restrictions set forth therein, of additional series of bonds on a parity with the Bonds.

The Bonds maturing on or after June 1, 20_ are subject to optional redemption by the University on or after June 1, 20_ in whole or in part at any time (in any integral multiple of \$5,000) at the redemption prices (expressed as percentages of principal amount of Bonds to be redeemed) set forth below plus accrued interest to the redemption date:

Redemption Period		<u>Price</u>	
June 1, 20_	_ through May 31, 20	%	
June 1, 20	through May 31, 20		

June 1, 20 and thereafter

The Bonds maturing on June 1, 20__ are subject to mandatory sinking fund redemption prior to maturity, on each June 1 of the following years in the following principal amounts at a redemption price equal to 100% of the principal amount thereof, plus accrued interest to the redemption date:

<u>Year</u>			Amount
20			\$
20			
20			
20			
20			
20			
20	(Final Maturity)		

The Bonds are also subject to redemption in whole or in part on any date, at the option of the University, from the proceeds of casualty insurance or condemnation awards, at a redemption price equal to 100% of the principal amount thereof to be redeemed, without premium, plus accrued interest to the redemption date, if all or any part of the Project is damaged, destroyed or taken through the exercise of the power of eminent domain and the University has determined not to use such proceeds to replace or rebuild the damaged, destroyed or taken property. In the event of a redemption in part pursuant to this paragraph, the University shall redeem the Bonds from each maturity then outstanding, to the extent practicable, in the proportion that the principal amount of the Bonds of such maturity bears to the total principal amount of the Bonds then outstanding.

Subject to applicable procedures of the Securities Depository while the Bonds are held in book-entry only form by the Securities Depository, and except as otherwise provided in the case of extraordinary redemption of the Bonds in accordance with the preceding paragraph, if less than all of the Bonds are to be redeemed, the Bonds (or portions of Bonds) to be redeemed shall be selected by the University in such manner as the University in its discretion may determine.

This Bond is transferable by the registered owner, in person or by its attorney duly authorized in writing, at the designated office of the Registrar, upon presentation of a written instrument of transfer and surrender of this Bond to the Registrar for cancellation. Upon the transfer, a new Bond or Bonds of the same aggregate principal amount, maturity date and interest rate will be issued to the transferee. No transfer will be effective unless represented by such surrender and reissue. This Bond may also be exchanged at the designated office of the Registrar for a new Bond or Bonds of the same aggregate principal amount, maturity date and interest rate without transfer to a new registered owner. Exchanges and transfers will be without expense to the holder except for applicable taxes or other governmental charges, if any. The Registrar shall not be required to transfer or exchange any Bond selected or called for redemption pursuant to the provisions hereof or from a Record Date through the next succeeding Interest Payment Date. All Bonds delivered in exchange or transfer shall be dated so that neither gain nor loss results from the transfer or exchange.

The University, the Paying Agent and the Registrar may treat the registered owner as the absolute owner of this Bond for all purposes, notwithstanding any notice to the contrary.

Neither the members of the Board nor any person executing this Bond are liable personally hereon or subject to any personal liability or accountability by reason of the issuance hereof.

This Bond will not be valid until the Certificate of Authentication has been signed by the Registrar.

The holder of this Bond shall have no right to enforce the provisions of the Resolution or to institute action to enforce the covenants therein, or to take any action with respect to any Event of Default under the Resolution, or to institute, appear in or defend any suit or other proceeding with respect thereto, except as provided in the Resolution.

All acts, conditions and things required by the Constitution and laws of the Commonwealth of Virginia and by the rules and regulations of the Board to happen, exist and be performed precedent to and in the issuance of this Bond have happened, exist and have been performed as so required.

IN WITNESS WHEREOF, Virginia Polytechnic Institute and State University has caused this Bond to be issued in its name and caused this Bond to bear the manual or facsimile signatures of its President and the University's Chief Financial Officer or the University's Treasurer and its official seal to be impressed or imprinted hereon, all as of the dated date hereof.

[SEAL]

[Chief Financial Officer] [Treasurer] of Virginia Polytechnic Institute and State University

President of Virginia Polytechnic Institute and State University

CERTIFICATE OF AUTHENTICATION

This Bond is one of the Bonds described in the within-mentioned Series Resolution.

Date of Authentication:	
, 2015	
	THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., as Registrar
	Authorized Signatory

FORM OF ASSIGNMENT

FOR VALUE RECEIVED	D the undersigned hereby sells, assigns and transfers
(Please print or typewrite name and addr	ress, including zip code, of Transferee)
	ERT SOCIAL SECURITY OR ING NUMBERS OF TRANSFEREE
transfer the within Bond on the boo	nder, and hereby irrevocably constitutes and appoints attorney to attorney to looks kept for registration thereof, with full power of
Substitution in the premises. Dated:	
	Registered Owner
	The signature above must correspond to the name of the Registered Owner as it appears on the front of this Bond in every particular, without alteration or enlargement or any change whatsoever.
	Signature Guaranteed
	Notice: Signature(s) must be guaranteed by an approved eligible guarantor institution — an institution which is a participant in a Securities Transfer Association recognized signature guarantee program.

A-6

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VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

AMENDED AND RESTATED RESOLUTION

AUTHORIZING AND SECURING ATHLETIC FACILITIES SYSTEM REVENUE BONDS

ADOPTED ON AUGUST 31, 2015

EFFECTIVE ON _______, 2015, THE DATE SPECIFIED IN SECTION 13.9

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AN AMENDED AND RESTATED RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY ATHLETIC FACILITIES SYSTEM REVENUE BONDS; PROVIDING FOR AN ATHLETIC FACILITIES SYSTEM FOR OPERATING AND FINANCING PURPOSES; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF, THE PREMIUM, IF ANY, AND THE INTEREST ON SUCH BONDS THE NET REVENUES OF THE ATHLETIC FACILITIES SYSTEM AS PROVIDED HEREIN; AND SETTING FORTH THE RIGHTS AND REMEDIES OF THE HOLDERS OF SUCH BONDS.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. On March 29, 2004, the Board adopted a resolution entitled "Resolution Authorizing and Securing Athletic Facilities System Revenue Bonds" (the "2004 Master Resolution") pursuant to which it formed a single system for the purpose of operating and financing its athletic facilities (the "Athletic Facilities System") with bonds issued under Chapter 3 (§ 23-14 et seq.) of Title 23 (the "General Higher Education Bond Act") subject to the requisite approvals of the General Assembly, the Governor and the Treasury Board of the Commonwealth of Virginia (the "Commonwealth").
- D. Pursuant to a resolution entitled "Series Resolution Authorizing and Securing Athletic Facilities System and General Revenue Pledge Bonds, Series 2004D" adopted by the Board on March 29, 2004 (the "2004 Series Resolution"), the University issued its revenue bonds, payable from and secured by, among things, the revenues of the Athletic Facilities System in the original aggregate principal amount of \$56,870,000 and designated "Athletic Facilities System and General Revenue Pledge Bonds, Series 2004D" dated May 1, 2004 (the "Series 2004D Bonds"). The payment of principal of and interest on the Series 2004D Bonds is insured by a Financial Guaranty Insurance Policy (the "2004 Bond Insurance Policy") issued by Ambac Assurance Corporation ("Ambac").
- E. Contemporaneously with the effective date of, and issuance of the initial Series of Bonds under, this Resolution, moneys of the University will have been applied to optionally redeem all of the Series 2004D Bonds, and there will be no other bonds issued and outstanding under the 2004 Master Resolution.
- F. Section 10.3 of the 2004 Master Resolution provides that it may be amended and modified by the Board with the consent of the Governor and the Treasury Board of the Commonwealth and the holders of the requisite percentage in aggregate principal amount of bonds then outstanding specified therein.

- G. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project, and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to the General Higher Education Bond Act.
- H. As provided in Section 23-38.108 of the Act, bonds issued by the University pursuant thereto may be payable as to principal and interest from, among other sources, any or all of (1) its revenues generally, (2) income and revenues derived from the operation of a particular project or projects, whether or not they are financed or refinanced from the proceeds of such bonds, or (3) other available funds of the University.
- I. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to the General Higher Education Bond Act.
- J. The Act is silent on certain rights typically afforded to the holders of bonds issued by institutions of higher education and permits the University to determine those rights. It is the intent of the University that the holders of the Bonds shall have rights comparable to those provided to the holders of bonds issued under the General Higher Education Bond Act pursuant to Sections 23-20 and 23-26 of the Code of Virginia of 1950, as amended.
- K. The Board has determined not to issue any additional bonds under the 2004 Master Resolution and to amend, supplement and restate in its entirety the 2004 Master Resolution all in the manner hereinafter set forth with the consent of the Governor and Treasury Board of the Commonwealth, but without the consent of Ambac or the holders of the Series 2004D Bonds which will have been redeemed in full and, therefore, will not be affected by such modifications to the 2004 Master Resolution, for the purpose of maintaining a single system for the operation and financing of its existing athletic facilities originally established pursuant to the 2004 Master Resolution and any additional athletic facilities financed or refinanced with Bonds issued under this Resolution while (1) providing additional operational flexibility for the athletic facilities system not contemplated by the 2004 Master Resolution and (2) facilitating the issuance of Bonds and setting forth the rights of the holders thereof without oversight from the General Assembly, the Governor and the Treasury Board required by the General Higher Education Bond Act and the 2004 Master Resolution, but no longer applicable by the terms of the Act.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF VISITORS OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY:

ARTICLE I

DEFINITIONS

Section 1.1 <u>Definitions</u>. In addition to words and terms defined in the Recitals and elsewhere in this Resolution, the following words and terms as used in this Resolution shall have the following meanings, unless some other meaning is plainly intended:

"Additional Facilities" shall mean any additional athletic or other facilities or any part thereof and any additions, extensions and improvements to the System, which are financed or refinanced under the provisions of this Resolution, or the revenues from which have been added to Revenues pursuant to the provisions of Section 7.1.

"Annual Budget" shall mean the University's budget of Current Expenses of the System for a Fiscal Year adopted by the Board pursuant to the provisions of Section 5.5. The Board may consider the Annual Budget for the System as a separate budget or as a separate and identifiable component of the overall University budget.

"Authorized Officer" shall mean (i) in the case of the University, the President of the University, the Chief Financial Officer or the University Treasurer and, when used with reference to any act or document also means any other person authorized by appropriate action of the Board to perform such act or execute such document on behalf of the University; and (ii) in the case of the Paying Agent or the Custodian (if not the State Treasurer), the President, any Vice-President, any Assistant Vice-President, any Corporate Trust Officer or any Assistant Corporate Trust Officer of the Paying Agent or the Custodian, and when used with reference to any act or document also means any other person authorized to perform such act or execute such document by or pursuant to a resolution of the governing body of the Paying Agent or the Custodian.

"Balloon Bond" shall mean any Bond, 25% or more of the original principal amount of which matures during any consecutive 12 month period, if such maturing principal amount is not required to be amortized below such percentage by mandatory redemption or prepayment before such twelve-month period. Balloon Bond does not include any Bond that otherwise would be classified hereunder as a Put Bond.

"Board" shall mean the Board of Visitors of the University or, if said Board shall be abolished, the board or body succeeding to the principal functions thereof.

"Bond Counsel" shall mean any firm of attorneys selected by the University and experienced in the issuance of municipal bonds and matters relating to the exclusion of the interest thereon from gross income for federal income tax purposes, which may be an attorney or firm regularly providing services to the University, the Paying Agent, the Underwriters or any Bondholder.

"Bondholder," "Holder" or "holder" when used herein with respect to Bonds issued hereunder shall mean the holder or registered owner, as the case may be, of Bonds at the time issued and outstanding hereunder.

"Bonds" shall mean the bonds authorized under and secured by this Resolution.

"Business Day" shall mean a day other than (i) a Saturday, Sunday or other day on which banking institutions in the Commonwealth or the city in which the Designated Office of the Paying Agent is located are authorized or required by law to close or (ii) a day on which the New York Stock Exchange is closed.

"Chief Financial Officer" shall mean the University's chief financial officer, or such other officer of the University having similar duties as may be selected by the Board.

"Code" shall mean the Internal Revenue Code of 1986, as amended. Each citation to a Code section shall include the applicable temporary, proposed and permanent regulations, revenue rulings and revenue procedures.

"Commonwealth" shall mean the Commonwealth of Virginia.

"Construction Fund" shall mean the Virginia Polytechnic Institute and State University Athletic Facilities System Construction Fund, a special fund created and designated by Section 4.1.

"Cost," as applied to a Project, shall embrace the cost of building, constructing, reconstructing, erecting, extending, bettering, equipping and improving a Project and all obligations and expenses and all items of cost which are set forth in Section 4.2.

"Credit Facility Agreement" shall mean an irrevocable letter of credit, insurance policy, guaranty or surety bond providing for the payment of or guarantying the payment of principal and purchase price of and interest on Bonds when due.

"Credit Obligation" of the University shall mean any indebtedness incurred or assumed by the University for borrowed money and any other financing obligation of the University that, in accordance with generally accepted accounting principles consistently applied, is shown on the liability side of a balance sheet; provided, however, that Credit Obligation shall not include any portion of any capitalized lease payment directly appropriated from general funds of the Commonwealth or reasonably expected to be so appropriated as certified by the Chief Financial Officer or the University Treasurer, but only to the extent such appropriation is restricted by the Commonwealth to the payment of such capitalized lease obligation. Credit Obligation shall not include any Interest Rate Agreement.

"Current Expenses" shall mean the University's reasonable and necessary current expenses of maintenance, repair and operation of the System and shall include, without limiting the generality of the foregoing, all ordinary and usual expenses of maintenance, repair and operation, which may include expenses not annually recurring, premiums for insurance, all administrative, engineering and architectural expenses relating to maintenance, repair and operation, legal expenses, any reasonable payments to pension or retirement funds, and any other expenses required or permitted to be paid by the University under the provisions of this Resolution or by law, but shall not include any reserves for extraordinary maintenance or repair, any allowance for depreciation, or any general administrative expenses of the University not

attributable to the System, or any debt service amounts or other amounts payable on the Bonds, Parity Indebtedness, Parity Swap Obligations or Subordinate Obligations.

"Custodian" shall mean The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and its successors, or such other bank or financial institution designated by the University to hold funds under this Resolution.

"Debt Service Fund" shall mean the Virginia Polytechnic Institute and State University Athletic Facilities System Debt Service Fund, a special fund created and designated by Section 5.7.

"Designated Office" shall mean, when used in reference to the Paying Agent, the corporate trust office of the Paying Agent designated as such, which shall initially be 525 William Penn Place, 38th Floor, Pittsburgh, Pennsylvania 15259.

"Excluded Facilities" shall mean any Existing Facilities or Additional Facilities the revenues from which have been excluded from Revenues pursuant to the provisions of Section 7.1.

"Existing Facilities" shall mean the athletic facilities owned and/or operated by the University as of August 31, 2015, which are currently included in the University's Athletic Facilities System.

"Fiscal Year" shall mean the period commencing on the first day of July in any year and ending on the last day of June of the following year.

"Hedge Provider" shall mean the counterparty to any Interest Rate Agreement to which the University is a party.

"Interest Rate Agreement" shall mean an interest rate exchange, hedge or similar agreement, expressly identified in a certificate of an Authorized Officer of the University, executed at the settlement date therefor or effective date thereof and kept with the University's executed copy of the agreement, as being or as having been entered into in order to hedge the interest payable on all or a portion of any Credit Obligation, which agreement may include, without limitation, an interest rate swap, a forward or futures contract or an option (e.g. a call, put, cap, floor or collar) and which agreement does not constitute an obligation to repay money borrowed, credit extended or the equivalent thereof. An Interest Rate Agreement does not constitute a Credit Obligation hereunder.

"Net Revenues" for any particular period, shall mean the amount of the excess of the total of the amounts deposited into the Revenue Fund pursuant to Section 5.3 over the total of the Current Expenses for the System during such period.

"Parity Indebtedness" shall mean any Credit Obligation of the University which currently exists or which may be incurred in accordance with the terms of this Resolution that is secured on a parity with the pledge of Revenues herein.

"Parity Interest Rate Agreement" shall mean any Interest Rate Agreement, any portion of the payments by the University under which is on a parity as to right to payment from Revenues, and is equally and ratably secured by a pledge of such Revenues, with the holders of all Bonds issued under this Resolution.

"Parity Swap Obligations" shall mean the amounts payable by the University to the Hedge Provider pursuant to a Parity Interest Rate Agreement that, as specified in the Parity Interest Rate Agreement, are on a parity as to right to payment from Revenues, and are equally and ratably secured by a pledge of such Revenues, with the holders of all Bonds issued under this Resolution.

"Paying Agent" shall mean initially The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and its successors and any other corporation that may at any time be substituted in its place in accordance with Section 13.2 of this Resolution.

"Principal and Interest Requirements" shall mean the aggregate of the principal of (whether at maturity, by mandatory redemption or mandatory prepayment or acceleration) and interest on all outstanding Bonds payable during a particular Fiscal Year; provided that the amount of such payments shall be calculated in accordance with the assumptions set forth in Section 7.16.

"Project" shall mean the building, construction, reconstruction, execution, extension, betterment, equipping and improvement of any portion of the System, including Additional Facilities, as more particularly described in each Series Resolution.

"Put Bond" shall mean any Bond that is (i) payable or required to be purchased by or on behalf of the underlying obligor, at its owner's option, before its stated maturity date or (ii) payable or required to be purchased from the owner by or on behalf of the underlying obligor (other than at the owner's option) before its stated maturity date.

"Registrar" shall mean initially The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and any successor Registrar appointed pursuant to Section 13.2 of this Resolution.

"Reserve Fund" shall mean the Virginia Polytechnic Institute and State University Athletic Facilities System Reserve Fund, a special fund created and designated by Section 5.9.

"Reserve Fund Credit Facility Agreement" shall mean an irrevocable letter of credit, insurance policy, guaranty or surety bond providing for the deposit of or guarantying the deposit of the Reserve Fund Requirement with respect to a Series of Bonds into the Reserve Fund if the moneys held to the credit of the Debt Service Fund shall be insufficient for its purposes.

"Reserve Fund Requirement" shall mean with respect to a Series of Bonds an amount equal to the least of (i) the maximum Principal and Interest Requirement of such Series of Bonds for any Fiscal Year; (ii) 10% of the original proceeds (excluding accrued interest) of such Series of Bonds; and (iii) 125% of the average annual Principal and Interest Requirement of such Series of Bonds.

"Resolution" shall mean this Resolution, together with any Series Resolution and all other resolutions supplemental hereto as herein permitted.

"Revenue Fund" shall mean the Virginia Polytechnic Institute and State University Athletic Facilities System Revenue Fund, a special fund created and designated by Section 5.3.

"Revenues" for any particular period, shall mean the fees, rents and charges and other revenues derived by the University from its operation and ownership of the System during such period and deposited to the credit of the Revenue Fund pursuant to the provisions of Section 5.3, any additions to Revenues made pursuant to the provisions of Section 7.1, and any transfers to, and less any transfers from, the Revenue Fund pursuant to the provisions of Section 6.2, but shall not include (i) any moneys deposited or transferred to the credit of the Reserve Fund pursuant to the provisions of Section 5.9, or (ii) any revenues excluded from Revenues pursuant to the provisions of Section 7.1.

"Series," whenever used herein with respect to Bonds, shall mean all of the Bonds designated as being of the same series, authenticated and delivered in a simultaneous transaction, regardless of variations in maturity, interest rate, redemption and other provisions, and any Bonds thereafter authenticated and delivered upon transfer or exchange of or in lieu of or in substitution for (but not to refund) such Bonds as herein provided.

"Series Resolution" shall mean the resolution of the Board under which Bonds of any Series are or will be issued.

"State Treasurer" shall mean the State Treasurer of the Commonwealth.

"Subordinate Obligations" shall mean any obligations, whether or not Credit Obligations, issued or incurred by the University, including obligations under bonds, notes or Interest Rate Agreements, which are payable from the Net Revenues of the System subordinate and junior to the Bonds.

"Surplus Fund" shall mean the Virginia Polytechnic Institute and State University Athletic Facilities System Surplus Fund, a special fund created and designated by Section 5.4.

"System" shall mean the Existing Facilities and Additional Facilities, but shall not include any Excluded Facilities.

"University" shall mean Virginia Polytechnic Institute and State University, Blacksburg, Virginia, an educational institution and a public body and governmental instrumentality for the dissemination of education, and its successor or successors.

"Variable Rate Bond" means any Bond the interest rate on which is not established at the time of incurrence at a fixed or constant rate.

Section 1.2 Rules of Construction/Use of Words and Phrases. Words of the masculine gender shall be deemed and construed to include correlative words of the feminine and neuter genders. Unless the context shall otherwise indicate, the word "person" shall include corporations and associations, including public bodies, as well as natural persons. Singular words shall connote the plural number as well as the singular and vice versa.

All references in the Resolution to particular Articles or Sections are references to Articles or Sections of the Resolution unless otherwise indicated.

The headings and table of contents as used in the Resolution are solely for convenience of reference and shall not constitute a part of the Resolution nor shall they affect its meaning, construction or effect.

ARTICLE II

FORM, EXECUTION, DELIVERY AND REGISTRATION OF BONDS

Section 2.1 <u>Authorization of Bonds</u>. For the purpose of providing funds for paying the Cost of Projects permitted under the Act, there shall be issued, under the authority of the Act, Bonds of the University subject to the conditions hereinafter provided in Section 2.10. Except as otherwise provided in this Resolution, the principal of and the interest on all Bonds issued under the provisions of this Resolution shall be payable solely from the Debt Service Fund, and all of the covenants, agreements and provisions of this Resolution shall be for the benefit and security of all and singular the present and future holders of the Bonds issued and to be issued under this Resolution, without preference, priority or distinction as to lien or otherwise, except as otherwise hereinafter provided, of any one Bond over any other Bond by reason of priority in the issue, sale or negotiation thereof or otherwise.

Section 2.2 <u>Details of Bonds</u>. The definitive Bonds issued under the provisions of Section 2.10 shall be as permitted or required by the respective Series Resolution providing for the issuance of Bonds of any Series. All such Bonds may have endorsed thereon such legends or text as may be necessary or appropriate to conform to any applicable rules and regulations of any governmental authority or any usage or requirement of law with respect thereto.

The Bonds authorized hereunder may be issued in one or more Series that may be delivered from time to time. The University shall by Series Resolution authorize such Series and shall specify the following: the authorized principal amount of such Series; the purpose for which the Bonds are being issued; the date and terms of maturity or maturities of the Bonds of such Series, or the payment of the Bonds on the demand of the holder; the interest payment dates and the interest rate or rates on the Bonds of such Series, which may include variable, adjustable, convertible or other rates, original issue discounts and zero interest rate bonds, provided that the average net interest cost rate on such Series shall never exceed for such Series the maximum interest rate permitted by law in effect at the time such Series are issued; the denominations, numbering, lettering and series designation of such Series of Bonds; the place or places of payment of such Bonds; the redemption prices for such Series of Bonds and any terms of redemption not inconsistent with the provisions of this Resolution which may include mandatory redemption at the election of the holder or registered owner thereof; the amount and date of each mandatory redemption requirement, if any, for such Series of Bonds; the use of proceeds of such Series of Bonds, including deposits required to be made into the Construction Fund and Reserve Fund, if any; any additional revenues of the University besides the Net Revenues of the System pledged to secure such Series of Bonds; and any other terms or provisions applicable to the Series of Bonds, not inconsistent with the provisions of this Resolution or the Act. All of the

foregoing may be added by Series Resolutions adopted at any time and from time to time prior to the issuance of such Series of Bonds.

All Bonds shall be in registered form, shall be payable in lawful money of the United States of America and shall bear interest from the date specified in the Series Resolution which shall be payable by mail or wire, as provided in the Series Resolution, to the registered owner thereof. In addition, if and to the extent permitted by applicable law, the University may issue any or all Series of Bonds as certificated registered public obligations (represented by instruments) or as uncertificated registered public obligations (not represented by instruments) commonly known as book-entry obligations, combinations thereof, or such other obligations as may then be permitted by law. The University shall establish a system of registration and shall appoint such registrars, transfer agents, depositaries or other agents as may be necessary to cause the registration, registration of transfer and reissuance of the Bonds within a commercially reasonable time according to the then current industry standards and to cause the timely payment of interest, principal and premium payable with respect to the Bonds. Any such system may be effective for any Series then outstanding or to be subsequently issued, provided that if the University adopts a system for the issuance of uncertificated registered public obligations, it may permit thereunder the conversion, at the option of a holder of any Bond then outstanding, of a certificated registered public obligation to an uncertificated registered public obligation, and the reconversion of the same.

The form of Bonds may provide that the holder of any such Bond may demand payment of principal and interest from the University within a stated period after delivering notice to a designated agent for the University and providing a copy of the notice with the tender of the Bond to such agent. The designated agent for the University, in accordance with the terms of a remarketing or replacement agreement, may provide for the resale or redelivery of the Bonds on behalf of the University at a price provided for in the agreement in lieu of payment by the University on demand. If the Bonds shall not be resold or redelivered within a stated period, the agent for the University may be authorized to draw upon a previously executed Credit Facility Agreement between the University and one or more banks or other financial or lending institutions permitting the University to borrow interest and principal for payment upon a particular Series of Bonds to which such Credit Facility Agreement shall pertain. The particular form or forms of such demand provisions, the period or periods for payment of principal and interest after delivery of notice, the appointment of the agent for the University, the terms and provisions of the remarketing or replacement agreement, and the terms and provisions of the Credit Facility Agreement shall be as designated by a Series Resolution of the University pertaining to each Series of Bonds to which such terms and provisions are applicable, prior to the sale thereof.

The principal of, premium, if any, and the interest on the Bonds shall be payable in any coin or currency of the United States of America which on the respective dates of payment thereof is legal tender for the payment of public and private debts. The principal of the Bonds of each Series shall be payable at the Designated Office or Offices of the Paying Agent, designated in the resolution of the Board awarding the Bonds of such Series, or at the office of the State Treasurer, in the City of Richmond, Virginia or both, as provided in the Series Resolutions. Interest on the Bonds to the respective maturities thereof shall be paid by check or draft mailed,

or wire transfer made, by the Paying Agent to the registered owners thereof on the appropriate record date, as set forth in the Series Resolution.

Section 2.3 <u>Form of Bonds</u>. The Bonds issued hereunder shall be in the form set forth in the respective Series Resolution.

Section 2.4 Execution of Bonds. The Bonds shall be executed in the name and on behalf of the University by its President and its Chief Financial Officer or its Treasurer, and the official seal of the University shall be imprinted, reproduced or lithographed on the Bonds. The signatures on the Bonds may be by facsimile, but one such officer shall sign his manual signature on the Bonds unless the Registrar shall be authorized and directed to cause one of its duly authorized signatories to manually execute the Bonds. In case any of the officers who shall have signed or attested any of the Bonds shall cease to be such officer or officers of the University before the Bonds so signed or attested shall have been authenticated or delivered by the Registrar or issued by the University, such Bonds may nevertheless be authenticated, delivered and issued and, upon such authentication, delivery and issue, shall be as binding upon the University as though those who signed and attested the same had continued to be such officers of the University. Any Bond may be signed and attested on behalf of the University by such persons as at the actual date of execution of such Bond shall be the proper officers of the University although at the nominal date of such Bond any such person shall not have been such officer of the University.

Only such of the Bonds as shall bear thereon a certificate of authentication, manually executed by the Registrar, shall be valid or obligatory for any purpose or entitled to the benefits of this Resolution, and such certificate of the Registrar shall be conclusive evidence that the Bonds so authenticated have been duly executed, authenticated and delivered hereunder and are entitled to the benefits of this Resolution.

Section 2.5 <u>Transfer of Bonds</u>. Any Bond may, in accordance with its terms, be transferred, upon the books required to be kept pursuant to the provisions of Section 2.7 by the person in whose name it is registered, in person or by his duly authorized attorney, upon surrender of such Bond for cancellation, accompanied by delivery of a written instrument of transfer, duly executed in a form approved by the Registrar.

Whenever any Bond or Bonds shall be surrendered for registration of transfer, the University shall execute and the Registrar shall authenticate and deliver a new Bond or Bonds, of authorized denominations of the same Series, maturity, interest rate and for a like aggregate principal amount. Such transfer shall be without charge to the holder, except that the Registrar shall require the Bondholder requesting such transfer to pay any tax or other governmental charge required to be paid with respect to such transfer.

Section 2.6 <u>Exchange of Bonds</u>. Bonds may be exchanged at the designated office of the Registrar for a like aggregate principal amount of Bonds of other authorized denominations of the same Series, maturity and interest rate. Such exchange shall be without charge to the holder, except that the Registrar shall require the Bondholder requesting such exchange to pay any tax or other governmental charge required to be paid with respect to such exchange.

Section 2.7 <u>Bond Register; Notices</u>. The Registrar will keep or cause to be kept, at its designated office sufficient books for the registration and transfer of the Bonds, which shall at all times during regular business hours be open to inspection by the University and the Paying Agent; and, upon presentation for such purpose, the Registrar shall, under such reasonable regulations as it may prescribe, register or cause to be registered, on such books, the transfer or exchange of Bonds as hereinbefore provided. No registration of transfer of a Bond shall be required to be made from a record date to the next succeeding interest payment date or if a Bond shall have been selected or called for redemption. No exchange of a Bond shall be required to be made from a record date to the next succeeding interest payment date or if a Bond shall have been selected or called for redemption. Notices sent to Bondholders pursuant to this Resolution shall be sent to the addresses shown on the registration books maintained by the Registrar or such other address as may be filed with the Registrar for such purpose. All notices required to be given by mail shall be given by first class mail, postage prepaid.

In addition to the other obligations imposed on the Registrar hereunder, the Registrar shall agree to deliver upon request a list of the names and addresses of the registered owners of the Bonds, as follows:

- (a) to any Bondholder, if an Event of Default shall have occurred and be continuing;
- (b) to the Paying Agent, the University or the provider of a Reserve Fund Credit Facility Agreement or Credit Facility Agreement, at any time; and
- (c) to the registered holders of 25% or more in aggregate principal amount of Bonds then outstanding, at any time.

Section 2.8 <u>Temporary Bonds</u>. The Bonds may be issued in temporary form exchangeable for definitive Bonds when ready for delivery. Any temporary Bond may be printed, lithographed or typewritten, shall be of such denomination as may be determined by the University and may contain such reference to any of the provisions of this Resolution as may be appropriate. A temporary Bond may be in the form of a single Bond payable in installments, each on the date, in the amount and at the rate of interest established for the Bonds maturing on such date. Every temporary Bond shall be executed by the University and be authenticated by the Registrar upon the same conditions and in substantially the same manner as the definitive Bonds. If the University issues temporary Bonds it will execute and deliver definitive Bonds as promptly thereafter as practicable, and thereupon the temporary Bonds may be surrendered, for cancellation, in exchange therefor at the designated office of the Registrar and the Registrar shall authenticate and deliver in exchange for such temporary Bonds an equal aggregate principal amount of definitive Bonds of authorized denominations of the same maturity or maturities and interest rate. Until so exchanged, the temporary Bonds shall be entitled to the same benefits under this Resolution as definitive Bonds authenticated and delivered hereunder.

Section 2.9 Bonds Mutilated, Lost, Destroyed or Stolen. If any Bond shall become mutilated, the University, at the expense of the owner of said Bond, shall execute, and the

Registrar shall thereupon authenticate and deliver, a new Bond of like tenor bearing a different number in exchange and substitution for the Bond so mutilated, but only upon surrender to the Registrar of the Bond so mutilated. Every mutilated Bond so surrendered to the Registrar shall be canceled by it and delivered to, or upon the order of, the University. If any Bond shall be lost, destroyed or stolen, evidence of the ownership thereof and of such loss, destruction or theft may be submitted to the University and the Registrar and, if such evidence be satisfactory to both of them and indemnity satisfactory to them shall be given, the University, at the expense of the owner, shall execute, and the Registrar shall thereupon authenticate and deliver, a new Bond of like tenor bearing a different number in lieu of and in substitution for the Bond so lost, destroyed or stolen (or if any such Bond shall have matured or shall be about to mature, instead of issuing a substitute Bond, the University may pay the same without surrender thereof). The University may require payment of a sum not exceeding the actual cost of preparing each new Bond issued under this Section and of the related expenses which may be incurred by the University, the Registrar and the Paying Agent. Any Bond issued under the provisions of this Section in lieu of any Bond alleged to be lost, destroyed or stolen shall constitute an original additional contractual obligation on the part of the University whether or not the Bond so alleged to be lost, destroyed or stolen be at any time enforceable by anyone, and shall be entitled to the benefits of this Resolution with all other Bonds secured by this Resolution.

Section 2.10 <u>Terms and Conditions for Issuance of Bonds</u>. Bonds of the University may be issued under and secured by this Resolution, subject to the conditions hereinafter provided in this Section, from time to time for the purpose of providing funds for paying all or any part of the Cost of the System, including any Additional Facilities, or for the purpose of refunding any Bonds, or other obligations of the University or portions thereof issued to finance University athletic facilities, then outstanding.

Before any Bonds shall be issued under the provisions of this Section, the Board shall adopt a Series Resolution authorizing the issuance of such Bonds. The Bonds of each Series issued under the provisions of this Section shall be designated "Athletic Facilities System Revenue Bonds, Series ____" (with appropriate modifications designated by the University to reflect additional pledged revenues, credit enhancement, variable interest rates or the like), shall be numbered, shall be dated, shall bear interest at a rate or rates not exceeding the maximum rate then permitted by law, shall be stated to mature on the date or dates specified therein, and shall be made redeemable at such times and prices (subject to the provisions of Article III of this Resolution), all as may be provided by the Series Resolution authorizing the issuance of such Bonds. Except as to any differences in the maturities thereof or in the rate or rates of interest or the provisions for redemption or the provisions regarding the Reserve Fund or the pledge of additional revenues of the University besides the Net Revenues of the System, all such Bonds shall be on a parity with and shall be entitled to the same benefit and security of this Resolution. Such Bonds shall be executed in the form and manner hereinabove set forth and shall be deposited with the Registrar for delivery, but before Bonds shall be delivered by the Registrar, there shall be filed with the Registrar the following:

(a) a copy, certified by the Secretary of the Board, of the Series Resolution mentioned above;

- (b) a copy, certified by the Secretary of the Board, of the resolution adopted by the Board awarding such Bonds, specifying the interest rate (or method or parameters for computing such interest rate) for each of such Bonds and the deposit, if any, to the Reserve Fund to secure such Bonds, and directing the delivery of such Bonds to or upon the order of the purchasers named therein upon payment of the specified purchase price;
- (c) if the Bonds are being issued to pay the Cost of a Project, a statement, signed by an Authorized Officer, certifying that (i) the Project described in the Series Resolution authorizing the issuance of such Bonds will, in his or her opinion, preserve, develop, extend or improve the System, and (ii) taking into account the issuance of such Bonds the University expects to have sufficient Net Revenues of the System and other available funds to meet its obligations to pay principal and interest and other amounts, as and when due and payable in accordance with their terms, on all Bonds issued under this Resolution and all Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such Bonds and (B) the completion of all Projects financed with the proceeds of such Bonds, and (iii) such Authorized Officer has no reason to believe that Net Revenues of the System and other available funds will not be sufficient to pay all amounts, as and when due and payable in accordance with their terms, on all Bonds issued under this Resolution and all Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations during the term of such Bonds;
- (d) a certificate, signed by an Authorized Officer, stating that to the best of his or her knowledge the University is not then in default in the performance and observance of any of the covenants, conditions, agreements or provisions contained in this Resolution; and
- (e) an opinion of Bond Counsel stating that the Bonds have been duly authorized, executed and delivered in accordance with the Act and this Resolution and constitute valid and binding limited obligations of the University, payable solely from the Net Revenues of the System and other property and revenues pledged therefor under this Resolution or the Series Resolution.

When the documents mentioned above in this Section shall have been filed with the Registrar and when the Bonds described in the resolutions mentioned in clauses (a) and (b) of this Section shall have been executed as required by this Resolution, the Registrar shall deliver such Bonds to or upon the order of the purchasers named in the resolution mentioned in clause (b), but only upon payment to the Custodian of the purchase price of such Bonds. The Registrar shall be entitled to rely upon such resolution as to the names of the purchasers, the interest rate of each of such Bonds and the amount of such purchase price.

The provisions of clause (c) above of this Section 2.10 shall not apply to the first Series of Bonds issued hereunder.

The proceeds (excluding accrued interest) of such Bonds shall be deposited to the credit of the Construction Fund and applied to the payment of the Cost of such Project, except if the

Bonds or a portion thereof are being issued to reimburse the University for Costs of the Project previously incurred by the University or to refund Bonds or other University obligations then outstanding, in which case such portion of the proceeds shall be paid to or on account of the University. If such Bonds are to be secured by the Reserve Fund, prior to such deposit to the Construction Fund or payment to or for the account of the University, the Custodian shall deduct from such proceeds and deposit to the credit of the Reserve Fund the amount, if any, to be so deposited as set forth in the Series Resolution for such Bonds.

If Bonds are issued for the purpose of refunding any or all of the Bonds or other University obligations then outstanding, the requirements set forth in clause (c)(i) above of this Section 2.10 shall not apply.

The amount received as accrued interest on such Bonds shall be deposited to the credit of the Debt Service Fund.

Section 2.11 <u>Additional Indebtedness</u>. The University may incur or issue other Credit Obligations payable from or secured by Net Revenues of the System only if the conditions set forth below in subsection (a), (b), (c) or (d) are met in each instance:

- (a) Section 9(c) Credit Obligations. Notwithstanding any provision of this Resolution, any Credit Obligation issued by or on behalf of the University pursuant to Article X, Section 9(c) of the Constitution of Virginia, as such section may be amended from time to time, that is secured by a pledge of all or any portion of the Net Revenues shall without further action (including any action required pursuant to Section 2.10 or Section 2.11(b)) automatically be deemed to be Parity Indebtedness secured on a parity basis with all Bonds issued pursuant to this Resolution, unless expressly subordinated to the pledge of Net Revenues herein.
- <u>Limitation on Other Parity Indebtedness</u>. The University may incur, (b) assume, guarantee or otherwise become liable on any other Parity Indebtedness, including any Credit Obligation incurred pursuant to the provisions of Article X, Section 9(d) of the Constitution of Virginia, as such section may be amended from time to time, but only if, prior to the incurrence of such Parity Indebtedness, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Parity Indebtedness (i) the University expects to have sufficient Net Revenues of the System and other available funds to meet its obligations to pay principal and interest and other amounts, as and when due and payable in accordance with their terms, on all Credit Obligations and Parity Swap Obligations secured by a pledge of such Net Revenues for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such Parity Indebtedness and (B) the completion of any facility financed with the proceeds of such Parity Indebtedness, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable in accordance with their terms, under all indebtedness and Interest Rate Agreements of the University secured by a pledge of such Net Revenues during the term of such proposed Parity Indebtedness, and (2) to the best of his or her knowledge, the University is not in default in the performance and observance

of any of the provisions of this Resolution. Any such Parity Indebtedness shall be designated by the University as Parity Indebtedness and shall be secured by a pledge of Net Revenues of the System on a parity with the pledge of Net Revenues of the System herein, unless expressly subordinated to the pledge hereof.

- (c) <u>Limitation on Issuance of Parity Indebtedness</u>. Except for Credit Obligations issued or incurred pursuant to subsections (a) or (b) above or to refund any Parity Indebtedness and other Bonds issued pursuant to Section 2.10, no additional bonds or other obligations may be issued or incurred by the University on a parity with any Bonds as to payment from Net Revenues of the System.
- (d) <u>Subordinate Obligations</u>. The University may issue Subordinate Obligations without restriction so long as they are payable from and secured by a pledge of the Net Revenues of the System junior and subordinate in all respects to the liens, pledges, covenants and agreements of this Resolution relating to the Net Revenues of the System for the benefit of holders of the Bonds.
- Section 2.12 Parity Interest Rate Agreements. The University may enter into Parity Interest Rate Agreements pursuant to which regularly scheduled payments thereon are on a parity with the holders of Bonds issued hereunder as to the right to payment from Revenues. Termination payments or any other payments, except regularly scheduled payments, on any Interest Rate Agreement, whether or not a Parity Interest Rate Agreement, must be subordinate to the holders of Bonds issued hereunder as to right of payment from Revenues.

ARTICLE III

REDEMPTION

Section 3.1 Redemption of Bonds. The Bonds of any Series issued under the provisions of this Resolution shall be made subject to redemption, both in whole and in part and at such times and prices, as may be provided in the Series Resolution authorizing the issuance of such Bonds.

If less than all of the Bonds of any one maturity of a Series shall be called for redemption, the particular Bonds to be redeemed from such Series shall be selected in such manner as shall be provided in the Series Resolution.

- **Section 3.2** <u>Redemption Notice</u>. Notice of redemption shall be given as set forth in the Series Resolution for each Series of Bonds.
- Section 3.3 <u>Effect of Calling for Redemption</u>. On the date so designated for redemption, notice having been published or mailed in the manner and under the conditions hereinabove provided and moneys for payment of the redemption price being held in separate accounts by the Paying Agent in trust for the holders of the Bonds to be redeemed, all as provided in this Resolution, the Bonds so called for redemption shall become and be due and payable at the redemption price provided for redemption of such Bonds on such date, interest on the Bonds so called for redemption shall cease to accrue, such Bonds shall cease to be entitled to

any benefit or security under this Resolution and the holders or registered owners of such Bonds shall have no rights with respect thereto except to receive payment of the redemption price. Bonds so redeemed shall be canceled upon surrender.

Section 3.4 Bonds Redeemed Not Deemed Outstanding. Bonds which have been duly called for redemption under the provisions of this Article, or with respect to which irrevocable instructions to call for redemption have been given by or on behalf of the University and for the payment of the redemption price of which moneys shall be held in separate accounts by the Paying Agent in trust for the holders of the Bonds to be redeemed, all as provided in this Resolution, shall not thereafter be deemed to be outstanding under the provisions of this Resolution.

ARTICLE IV

CUSTODY AND APPLICATION OF PROCEEDS OF BONDS

- Section 4.1 Construction Fund. The University shall create or cause to be created a fund designated "The Virginia Polytechnic Institute and State University Athletic Facilities System Construction Fund" (the "Construction Fund") to be administered by the University, to the credit of which there shall be deposited the proceeds of all Bonds required to be so deposited by the Series Resolution authorizing such Bonds. There may also be deposited to the credit of the Construction Fund any moneys received from any other source for paying the Cost of the Project described in such Series Resolution if the University shall have received an opinion of Bond Counsel that such deposit will not cause the interest on the Bonds to be includable in gross income for federal income tax purposes. The moneys in the Construction Fund shall be held in trust and applied to the payment of the Cost of such Project and, pending such application, shall be subject to a lien and charge in favor of the holders of the Bonds issued and outstanding under this Resolution and for the future security of such holders until paid out or transferred as herein provided. Separate accounts may be created in the Construction Fund to hold moneys allocable to different Projects, as may be required by the Series Resolutions.
- **Section 4.2** <u>Items of Cost of Project</u>. For the purposes of this Resolution, the Cost of each Project shall include, without intending thereby to limit or restrict or to extend any proper definition of such Cost under any applicable laws or this Resolution, any or all of the following:
 - (a) obligations incurred for labor and materials and to contractors, builders and materialmen in connection with the Project;
 - (b) the cost of acquiring by purchase, if such purchase shall be deemed expedient, and the amount of any award or final judgment in or any settlement or compromise of any proceeding to acquire by condemnation, such lands, property, rights, rights of way, franchises, easements and other interests as may be deemed necessary or convenient by the Board for the construction and operation of the Project, options and partial payments thereon, and the amount of any damages incident to or consequent upon such construction and operation;

- (c) the cost of furnishing and equipping the Project;
- (d) interest on the applicable series of Bonds prior to and during construction of the Project and for one year thereafter;
- (e) taxes or other municipal or governmental charges lawfully levied or assessed during construction of the Project or any property acquired therefor, and premiums on insurance, if any, in connection with the Project during construction; fees and expenses of engineers and architects for surveys and estimates and other preliminary investigations, preparation of plans, drawings and specifications and supervising construction, as well as for the performance of all other duties of engineers and architects in relation to the construction of the Project or the issuance of Bonds therefor;
- (f) expenses of administration properly chargeable to the Project, legal expenses and fees, fees and expenses of consultants, financing charges (including Reserve Fund Credit Facility Agreement and Credit Facility Agreement fees), cost of audits and of preparing and issuing the Bonds, and all other items of expense not elsewhere in this Section specified incident to the construction and equipping of the Project and the placing of the Project in operation; and
- (g) any obligation, including interim financing, or expenses heretofore or hereafter incurred by the University or by any other agency of the Commonwealth in connection with the Project for any of the foregoing purposes.
- Section 4.3 <u>Capitalized and Accrued Interest</u>. The University may set aside from the proceeds of any Bonds issued under this Resolution and deposit to the credit of a separate interest account in the Construction Fund the amount of capitalized interest set forth in a certificate executed by an Authorized Officer of the University and included as a part of the original transcript relating to the issuance of such Bonds. The University may apply the money in such interest account to the payment of interest on such Bonds at such times and in such amounts as set forth in such certificate.
- Section 4.4 <u>Payments from Construction Fund</u>. Payment of the Cost of each Project shall be made from the Construction Fund and other available funds, all as provided by law. All payments from the Construction Fund shall be subject to the provisions and restrictions set forth in this Article, and the Board covenants that it will not cause or permit to be paid from the Construction Fund any sums except in accordance with such provisions and restrictions.

Moneys in the Construction Fund shall be paid out based on invoices received by the University, the amounts stated in such invoices to be necessary for paying items of Cost of each Project.

The University shall maintain written records of withdrawals from the Construction Fund which shall reflect each amount to be paid, the name of the person, firm or corporation to whom each such payment is due and the purpose for which the obligation to be paid was incurred, that

the goods or services specified have been received or performed, that payment therefor has not been previously authorized and that the expenditure is a proper charge to the Construction Fund.

Section 4.5 Lands for Project. The Board covenants that no part of the System has been or will be constructed on lands other than lands to which good and marketable title is owned or can be acquired by the University or the Commonwealth in fee simple unless the University has a perpetual easement over the lands to be used or has acquired a lesser right or interest in such lands which an Authorized Officer has certified will be sufficient for the University's purposes. The University further covenants that any such land will be free from all liens, encumbrances and defects of title except liens, encumbrances or defects of title which do not have a materially adverse effect upon the University's or the Commonwealth's right to use such lands or properties for the purposes intended or which have been adequately guarded by a bond or other form of indemnity.

Section 4.6 <u>Disposition of Balance in Construction Fund</u>. When each Project shall have been completed and placed in operation or abandoned, as evidenced by a certificate signed by an Authorized Officer and filed with the Secretary of the Board and accompanied by an opinion of the Attorney General or a special Assistant Attorney General of the Commonwealth that there are no unsatisfied mechanics', laborers', contractors' or materialmen's liens against the Project or on file in any public office where the same should be filed in order to be valid liens against the Project, and that, in the opinion of the signer, the time within which such liens can be filed has expired, any balance in the Construction Fund not deemed by the Board to be necessary to be reserved for the payment of any remaining part of the Cost of the Project shall be transferred to the credit of the Debt Service Fund and shall be invested at a yield not to exceed the lower of (l) the yield on the Bonds from which such moneys were derived or (2) the blended yield on the Bonds, until such moneys are used to purchase or redeem the Bonds on the earliest date on which an optional redemption may be permitted.

ARTICLE V

REVENUES AND FUNDS

- Section 5.1 Covenants as to Fees and Revenues. The Board covenants that it will impose and collect fees, rents and charges for or in connection with the use, occupation or services of the System and that, from time to time and as often as it shall appear necessary, it will revise such fees, rents and charges as may be necessary or proper so that the moneys deposited or transferred to the credit of the Revenue Fund in each Fiscal Year from any available funds, including without limitation any transfers thereto from the Surplus Fund, will be a sum at least equal to the total of the following:
 - (a) the Current Expenses (excluding any Current Expenses attributable to any facilities that would become Excluded Facilities as a result of any such exclusion of Revenues) of the System for the current Fiscal Year as shown by the Annual Budget for such Fiscal Year;

- (b) 100% of the Principal and Interest Requirements for the current Fiscal Year, on account of the Bonds of each Series then outstanding;
- (c) 100% of the amounts required to be deposited into the Reserve Fund during the current Fiscal Year, as set forth in Section 5.9 and in the Series Resolutions; and
- (d) 100% of the debt service or other payment requirements for the current Fiscal Year on account of any Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations then outstanding.
- **Section 5.2** <u>Use of System</u>. Although the System currently consists of athletic facilities, the University may in its discretion use all or any portion of the System for any purpose permitted by law.
- Section 5.3 Revenue Fund. The University shall create or cause to be created a fund designated "Virginia Polytechnic Institute and State University Athletic Facilities System Revenue Fund" (the "Revenue Fund") to be held and administered by the University. The University covenants that all Revenues derived from the operation or ownership of the System will be credited to the Revenue Fund. All moneys in the Revenue Fund shall be held for the benefit of the holders of the Bonds and the outstanding Parity Indebtedness and Parity Swap Obligations and applied as hereinafter provided in this Article.
- **Section 5.4** <u>Surplus Fund</u>. The University shall create or cause to be created a fund designated "Virginia Polytechnic Institute and State University Athletic Facilities System Surplus Fund" (the "Surplus Fund") to be held and administered by the University. All moneys in the Surplus Fund shall be applied as hereinafter provided in this Article.
- **Section 5.5** Annual Budget. The Board covenants that on or before the first day of each Fiscal Year it will prepare and adopt a budget of Current Expenses for the System for such Fiscal Year (herein sometimes called the "Annual Budget").

If for any reason the Board shall not have adopted the Annual Budget before the first day of any Fiscal Year, the budget for the preceding Fiscal Year, shall, until the adoption of the Annual Budget, be deemed to be in force and shall be treated as the Annual Budget under the provisions of this Article.

The Board may at any time adopt an amended or supplemental Annual Budget for the remainder of the then current Fiscal Year, and when so adopted the Annual Budget so amended or supplemented shall be treated as the Annual Budget under the provisions of this Article.

Section 5.6 Payments from Revenue Fund. Current Expenses of the System shall be paid from the Revenue Fund as the same shall become due and payable.

Following the end of each quarter of each Fiscal Year, the University may withdraw from the Revenue Fund and transfer to the Surplus Fund an amount up to the amount of all moneys

held for the credit of the Revenue Fund on the last day of such quarter (a) less an amount to be held as a reserve for Current Expenses of the System not to exceed the amount shown by the Annual Budget to be necessary for Current Expenses of the System for the next three months, (b) less an amount equal to the amount of interest to become due and payable within the next ensuing three months with respect to the Bonds of each Series then outstanding (or a pro-rata quarterly deposit in the case of Bonds with respect to which interest is paid on an other than a quarterly basis), except any interest to be paid from the separate interest account in the Construction Fund under the provisions of Section 4.3 or interest deposited into the Debt Service Fund from the proceeds derived from the sale of any Bonds, as set forth in the last paragraph of Section 2.10, and 1/4 of the amount of principal of the Bonds of each Series then or to become due and payable (whether at maturity or upon mandatory sinking fund redemption or otherwise) within the next ensuing 12 months, (c) less all amounts previously retained in the Revenue Fund in past quarters for principal and interest payments on the Bonds and not yet transferred to the Debt Service Fund, (d) less such amounts at such times as are required to pay debt service and other amounts due on Parity Indebtedness and Parity Swap Obligations, and (e) less such amount, if any, as may be required to be deposited in the Reserve Fund pursuant to Section 5.9 or the Series Resolutions.

Section 5.7 <u>Debt Service Fund</u>. A fund shall be created by the Paying Agent designated "Virginia Polytechnic Institute and State University Athletic Facilities System Debt Service Fund" (the "Debt Service Fund") to be held in trust for the benefit of the holders of the Bonds. On or before the day preceding each date on which payments of interest or principal shall be due and payable on the Bonds (a "Payment Date"), the University shall transfer to the Paying Agent from either the Revenue Fund or Surplus Fund an amount of money sufficient to cause the amount held in the Debt Service Fund to be equal to the interest, premium and principal due on the Bonds on such Payment Date. The Paying Agent shall cause payment of the amounts due on the Bonds on each such Payment Date.

Section 5.8 Payments to Bondholders. The Paying Agent shall, at appropriate times on or before each Payment Date, withdraw from the Debt Service Fund the amounts needed on such date to pay the principal, premium and interest on the Bonds and shall pay or cause the same to be paid to the Bondholders as such principal, premium and interest become due and payable.

Section 5.9 Reserve Fund/Application of Moneys in Reserve Fund. A fund shall be created by the Paying Agent designated "Virginia Polytechnic Institute and State University Athletic Facilities System Reserve Fund" (the "Reserve Fund") to be held in trust for the benefit of the holders of those Series of Bond secured thereby. Not every Series of Bonds need be secured by the Reserve Fund. Only those Series of Bonds issued under Series Resolutions which provide some mechanism for funding an amount not to exceed the Reserve Fund Requirement or obtaining a Reserve Fund Credit Facility Agreement will be secured by the Reserve Fund. The Paying Agent shall establish separate accounts in the Reserve Fund for each Series of Bonds so secured. The Bondholders of such Series of Bonds will have an interest only in the account created for such Series. At what time and in what manner the account for a Series is funded or at what time and in what manner a Reserve Fund Credit Facility Agreement will be required or will be drawn upon shall be governed by the Series Resolutions.

Moneys held for the credit of the Reserve Fund shall be used for the purpose of paying the interest on and the principal of those Series of Bonds secured by the Reserve Fund whenever and to the extent that the moneys held for the credit of the Debt Service Fund with respect to such Series of Bonds shall be insufficient for such purpose. If the moneys in the Debt Service Fund are insufficient for such purpose with respect to a Series of Bonds secured by the Reserve Fund and if a Reserve Fund Credit Facility Agreement exists, the Paying Agent shall take such actions as may be required to draw upon such Reserve Fund Credit Facility Agreement and to deposit the proceeds into the appropriate account in the Reserve Fund.

Section 5.10 <u>Application of Moneys in the Surplus Fund</u>. Moneys held for the credit of the Surplus Fund may be used for any lawful purpose directly benefiting the University as may from time to time be determined by the University.

Section 5.11 Application of Moneys in Debt Service Fund and Reserve Fund. Subject to the terms and conditions set forth in this Resolution, moneys held for the credit of the Debt Service Fund and the Reserve Fund shall be disbursed by the Paying Agent for (a) the payment of interest on the Bonds issued hereunder as such interest becomes due and payable, or (b) the payment of the principal of such Bonds at their maturities and upon redemption and such moneys are hereby pledged to and charged with the payments mentioned in this Section. Any moneys which shall be deposited by the University in the Debt Service Fund with the Paying Agent for the purpose of paying any of the Bonds hereby secured, either at the maturity thereof or upon call for redemption, and which shall remain unclaimed by the holders of such Bonds for the period of five years after the date on which such Bonds shall have become due and payable shall be disposed of by the Paying Agent in accordance with The Uniform Disposition of Unclaimed Property Act, Chapter 11.1, Title 55, Code of Virginia of 1950, as amended (the "Unclaimed Property Act"). The Paying Agent shall be entitled to act in good faith in reliance on written direction from the University or its counsel in complying with the Unclaimed Property Act, absent the Paying Agent's negligence or willful misconduct.

Whenever the total of the moneys held for the credit of the Debt Service Fund and the Reserve Fund shall be sufficient for paying the principal of and the redemption premium, if any, and the interest accrued on all Bonds then outstanding under the provisions of this Resolution, such moneys may be applied by the Paying Agent, at the direction of the University, to the redemption of such Bonds.

Service Fund and the Reserve Fund shall be held in trust and applied as herein provided with respect to each such fund and, pending such application, shall be subject to a lien and charge in favor of the holders of the Bonds issued and outstanding under this Resolution and the respective Series Resolutions and for the further security of such holders until paid out or transferred as herein provided; it being understood that the Reserve Fund secures only those Series of Bonds specifically secured by the Reserve Fund, that the holders of the Parity Indebtedness and Parity Swap Obligations shall have a lien on and pledge of the Net Revenues for the payment of debt service and other amounts due on the Parity Indebtedness and Parity Swap Obligations on a parity with the Bondholders and that the holders of the Subordinate Obligations have a lien on and pledge of the Net Revenues subordinate and junior to the Bondholders.

Section 5.13 Cancellation of Bonds Upon Payment. All Bonds paid, redeemed or purchased by the University, either at or before maturity shall be canceled upon the payment, redemption or purchase of such Bonds and shall be delivered to the University when such payment, redemption or purchase is made. All Bonds canceled under any of the provisions of this Resolution may be cremated or otherwise destroyed by the University or its designee.

ARTICLE VI

INVESTMENT OF FUNDS

Section 6.1 Moneys Held by University or Deposited with the Paying Agent. All moneys received by the University or deposited with the Paying Agent under the provisions of this Resolution shall be held and applied only in accordance with the provisions of the Act and this Resolution and shall not be subject to liens of or attachment by any creditor of the University.

Section 6.2 <u>Investment of Moneys</u>. Moneys held for the credit of the various funds and accounts hereunder shall be invested by the University for such periods not to extend beyond the date such funds will be needed in any investments which are permitted for the investment of public funds under the laws of the Commonwealth.

Obligations so purchased as an investment of moneys in any such fund or account, and any interest bearing time deposits made with respect to such moneys, shall be deemed at all times to be a part of such fund or account, and the interest received thereon and any profit realized from such investment shall be credited to such fund or account, and any loss resulting from such investment shall be charged to such fund or account; provided, however, that the interest received on the investment of moneys in the Debt Service Fund and the Reserve Fund and any profit realized from such investment shall be credited to the Revenue Fund and any loss resulting from such investment shall be charged to the Revenue Fund. The Paying Agent shall sell at the best price obtainable or present for redemption any obligations so purchased whenever it shall be necessary so to do in order to provide moneys to meet any payment or transfer from any such fund or account. Neither the Paying Agent nor the University shall be liable or responsible for any loss resulting from any such investment.

The Debt Service Fund may only be invested in investments permitted for the investment of public sinking funds.

For the purpose of determining the amount on deposit to the credit of any such fund or account, obligations in which moneys in such fund or account have been invested shall be computed at market value.

ARTICLE VII

PARTICULAR COVENANTS

Section 7.1 Payment of Principal and Interest; Pledge of Revenues; Exclusions from and Additions to Revenues. The University covenants that it will promptly pay from the sources described herein the principal of and the interest on every Bond issued under the provisions of this Resolution at the place or places, on the dates and in the manner provided herein and in said Bonds, and any premium required for the retirement of said Bonds by purchase or redemption, according to the true intent and meaning thereof. Except as otherwise provided in this Resolution or any Series Resolution, such principal, interest and premium are payable solely from Revenues, which Revenues and other moneys to the extent provided in the Resolution are hereby pledged to the payment thereof in the manner and to the extent hereinabove particularly specified.

Notwithstanding any other provision of this Resolution, the University may at any time exclude any Revenues from the Revenues pledged hereunder if, prior to the exclusion of such Revenues, an Authorized Officer of the University certifies in writing (1) that after the exclusion of the Revenues designated in such certificate, the University will not be in default of any of its covenants under this Resolution or any Series Resolution, including without limitation the covenants relating to fees, rents, charges and revenues contained in Section 5.1 and (2) that Revenues received or to be received in the then current Fiscal Year, after taking into account such exclusion, will in the opinion of such Authorized Officer at least equal the sum of the amounts set forth in clauses (a), (b), (c) and (d) of Section 5.1. In addition, the University may at any time add to the definition of Revenues hereunder any revenues that are not then subject to the lien hereof by filing with the Paying Agent a written notice of such addition and a description of the revenues to be added.

THE UNIVERSITY SHALL NOT BE OBLIGATED TO PAY THE PRINCIPAL OF OR INTEREST ON THE BONDS EXCEPT FROM THE SOURCES NOTED HEREIN OR IN ANY SERIES RESOLUTION PLEDGED THEREFOR. THE BONDS AND THE INTEREST THEREON SHALL NOT BE DEEMED TO CONSTITUTE A DEBT OR LIABILITY OF THE COMMONWEALTH, LEGAL, MORAL OR OTHERWISE. **NEITHER** COMMONWEALTH NOR THE UNIVERSITY SHALL BE OBLIGATED TO PAY THE PRINCIPAL OF OR INTEREST ON THE BONDS OR OTHER COSTS INCIDENT THERETO EXCEPT FROM THE SOURCES NOTED HEREIN OR IN ANY SERIES RESOLUTION PLEDGED THEREFOR, AND NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE COMMONWEALTH NOR ANY OTHER REVENUES OR FUNDS OF THE UNIVERSITY ARE PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF OR INTEREST ON THE BONDS OR OTHER COSTS INCIDENT THERETO.

Section 7.2 <u>Construction of Projects</u>. The University covenants that, in the event that Bonds shall be issued under the provisions of Section 2.10 for the purpose of providing funds for paying all or any part of the Cost of constructing any Additional Facilities, it will forthwith proceed to construct such Additional Facilities in conformity with law and all requirements of all governmental authorities having jurisdiction, and that it will complete such construction as quickly as practicable.

- Section 7.3 <u>Architectural and Engineering Services</u>. The University covenants that it will provide and maintain competent and adequate architectural or engineering services covering the supervision and inspection of the development and construction of any Additional Facilities and will obtain all approvals and permits required by law as a condition precedent to the construction, development and operation of any such Additional Facilities.
- Section 7.4 <u>Use and Operation of System</u>. The University covenants that it will establish and enforce reasonable rules and regulations governing the use of the System and the operation thereof, that all conditions of employment and all compensation, salaries, fees and wages paid by it in connection with the maintenance, repair and operation of the System will be reasonable, that no more persons will be employed by it than are necessary, that all persons employed by it will be qualified for their respective positions and that it will at all times maintain the System in good repair and in sound operating condition and will make all necessary repairs, renewals and replacements.
- Section 7.5 Parity Liens; Payment of Lawful Charges. The University covenants that, except for existing Parity Indebtedness, Parity Swap Obligations and as provided in this Resolution, it will not create or suffer to be created any lien or charge upon the System or any part thereof or upon the revenues therefrom senior to or on a parity with the lien of the holders of the Bonds (other than the security interest created in connection with a Reserve Fund Credit Facility Agreement or a Credit Facility Agreement) and that, from such Revenues or other available funds, it will pay or cause to be discharged, or will make adequate provision to satisfy and discharge, within 60 days after the same shall accrue, all lawful claims and demands for labor, materials, supplies or other objects which, if unpaid, might by law become a lien upon the System or any part thereof or the revenues therefrom; provided, however, that nothing in this Section contained shall require the University to pay or cause to be discharged, or make provision for, any such lien or charge so long as the validity thereof shall be contested in good faith and by appropriate legal proceedings.
- Section 7.6 <u>Acceptance of Other Funds Permitted</u>. Notwithstanding any other provision of this Resolution, the University may accept from the United States of America, the Commonwealth or any of their agencies, departments or political subdivisions or any person, firm or corporation such moneys as may be offered for the purpose of paying all or any part of the Cost of constructing, acquiring, maintaining, repairing and operating the System and nothing herein shall be construed to prevent the University from depositing any funds available to the University for such purpose in the Debt Service Fund for the payment of the interest on or the principal of the Bonds issued under the provisions of this Resolution so long as the "federal guarantee" provisions of Section 149(b) of the Code will not be violated by such deposit.
- Section 7.7 <u>Insurance</u>. The University covenants that from and after the time when the contractors or any person engaged in constructing any Additional Facilities or any part thereof shall cease to be responsible, pursuant to the provisions of the respective contracts for the construction of Additional Facilities or such part, for loss or damage to such Additional Facilities or such part occurring from fire or lightning, it will insure or cause to be insured and at all times keep such Additional Facilities or such part insured and will now and at all times keep the System

insured with a responsible insurance company or companies, qualified to assume the risk thereof, against physical loss or damage caused by fire or lightning, with such exceptions as are ordinarily required by insurers of structures or facilities of similar type, in an amount not less than the aggregate principal amount of Bonds and Parity Indebtedness outstanding (unless provision for payment thereof shall have been made); provided, however, that such amount of insurance shall at all times be sufficient to comply with any legal or contractual requirement which, if breached, would result in assumption by the University of a portion of any loss or damage as a co-insurer, and such insurance may provide for the deduction from each claim for loss or damage (except in case of a total loss) of not more than 2% of the total amount of insurance required by the application of the co-insurance clause; and provided, further, that if at any time the University shall be unable to obtain such insurance to the extent above required, either as to amount of such insurance or as to the risks covered thereby or the deductible provision thereof, it will not constitute an event of default under the provisions of this Resolution if the University shall carry such insurance to the extent reasonably obtainable.

The proceeds of such insurance shall be available for, and shall to the extent necessary be applied to, the repair, replacement or reconstruction of the damaged or destroyed property. If such proceeds are more than sufficient for such purpose, the balance remaining shall be deposited to the credit of the Surplus Fund. If such proceeds, with other available funds, shall be insufficient for such purpose, such proceeds shall be deposited to the credit of the Debt Service Fund and used to purchase or redeem Bonds on the earliest date on which an optional redemption may be permitted, or shall be used to repair, replace or reconstruct the damaged or destroyed property, as the University by resolution may determine. If such proceeds are deposited to the Debt Service Fund to redeem the Bonds in part, the University shall perform an internal rate study for the System and, if the rate study shows that the Revenues (taking into account any loss of Revenues as a result of such damage or destruction) will be insufficient to deposit into the Revenue Fund the entire amount referred to in clauses (a), (b), (c) and (d) of Section 5.1 (taking into account the amounts on deposit in the Debt Service Fund), the University shall adjust its rates in the manner recommended by the rate study so that the Revenues will be sufficient to deposit into the Revenue Fund all of the amounts referred to in clauses (a), (b), (c) and (d) of Section 5.1.

The foregoing insurance requirements may be modified or amended if and to the extent a qualified independent insurance consultant determines that such requirements are not necessary or that the required coverage is not reasonably commercially available or if and to the extent that the laws of the Commonwealth provide for a self-insurance program and the University participates in such program.

Section 7.8 Other Insurance. To the extent not covered by Section 7.7, the University covenants that it will at all times carry or cause to be carried with a responsible insurance company or companies, qualified to assume the risks thereof, such other insurance in such amount and covering such risks with respect to the System as the University shall deem to be reasonable and desirable.

- **Section 7.9** Rights of Bondholders Not to Be Impaired. The University covenants that no contract or contracts will be entered into or any action taken with respect to the System which might impair or diminish in any material respect the rights of the Bondholders.
- **Section 7.10** Further Instruments and Actions. The University covenants that it will, from time to time, execute and deliver such further instruments and take such further action as may be required to carry out the purposes of this Resolution.
- Section 7.11 <u>Accurate Records and Accounts</u>. The University covenants that it will keep the funds and accounts of the System separate from all other funds and accounts of the University, and that it will keep accurate records and accounts of all items of cost and of all expenditures relating to the System and of the Revenues collected and the application of such Revenues.

The University further covenants that it will cause to be filed not later than the end of the seventh month following the close of each Fiscal Year with the Secretary of the Board and the Paying Agent a certificate, signed by an Authorized Officer, stating that he or she has reviewed this Resolution and has no knowledge of any default by the University in the performance or observance of any of the provisions of this Resolution or, if he or she has such knowledge, specifying each default and the nature thereof and what actions the University is taking to cure such default.

The University further covenants that it will cause any additional reports or any audits relating to the System to be made as required by law.

The cost of the reports referred to in this Section shall be treated as a part of the cost of operation of the System.

- **Section 7.12** Recognized Accounting Principles. The University covenants that all of the accounts and records of the University will be kept according to generally accepted accounting principles, consistently applied.
- **Section 7.13** Covenant Against Sale or Encumbrances. The University covenants that, except as in this Section, Section 7.1 or in any Series Resolution otherwise permitted, it will not sell, exchange, lease or otherwise dispose of or encumber the System or any part thereof not encumbered as of the date of this Resolution.

The University may from time to time sell, exchange, lease or otherwise dispose of any equipment, machinery, fixtures, apparatus, tools, instruments or other similar property if it determines that such articles are no longer needed or are no longer useful in connection with the System, and the proceeds thereof shall be applied to the replacement of the properties so sold, exchanged, leased or disposed of or shall be deposited to the credit of the Surplus Fund.

In addition to any sale, exchange, lease or disposition permitted above, the University may from time to time sell, exchange, lease or otherwise dispose of any other property of the System; provided, however, if such sale, exchange, lease or disposition would result in a loss of

more than 10% of the Revenues of the System, the University shall (l) deposit the proceeds derived from such sale, exchange, lease or disposition into the Debt Service Fund, to be used to redeem Bonds on the earliest date on which an optional redemption may be permitted and (2) unless the Bonds will be redeemed in full pursuant to clause (l) or this Resolution or the Bonds are otherwise defeased as provided in Article XI, perform an internal rate study for the System and, if the rate study shows that the remaining Revenues will be insufficient to deposit into the Revenue Fund the entire amount referred to in clauses (a), (b), (c) and (d) of Section 5.1, the University shall adjust its rates in the manner recommended by the rate study so that the Revenues will be sufficient to deposit into the Revenue Fund all of the amounts referred to in clauses (a), (b), (c) and (d) of Section 5.1.

Section 7.14 Payment of Interest on or Principal of Bonds from any Available Moneys. The University covenants that if at any time the moneys held for the credit of the Debt Service Fund and the Reserve Fund shall be insufficient for the purpose of paying the interest on and the principal of the Bonds as such interest and principal becomes due and payable, the University will deposit to the credit of the Debt Service Fund an amount sufficient, together with the amount then held for the credit of the Debt Service Fund, to pay such interest and principal from any moneys available for the use of the University, including the Surplus Fund, and which are not required by law or by previous binding contract to be devoted to some other purpose.

Section 7.15 Reserved.

Section 7.16 <u>Computation Assumptions</u>. For purposes of construing any definitions or computing any covenants set forth in this Resolution, the following rules shall apply:

- (a) The Principal and Interest Requirements on any Balloon Bond in each Fiscal Year will be assumed to be the sum of (i) the principal and interest due in that Fiscal Year (except any Fiscal Year in which more than 25% of the principal amount of the Bond is due, in which case this amount shall be zero) and (ii) the amount of principal and interest assigned to that Fiscal Year assuming that the amount of principal due in any Fiscal Year in which more than 25% of the principal amount of the Bond is due is computed on a level annual debt service schedule calculated at the interest rate on the Bond for a period of 30 years from the date of issuance.
- (b) Principal and Interest Requirements on any Put Bond in each Fiscal Year will be assumed to be the sum of (i) the principal and interest due in that Fiscal Year and (ii) the amount of principal and interest determined by amortizing from its incurrence date the amount of principal that may become subject to mandatory purchase (including purchase that may be required at the option of the owner of the Bond) in any Fiscal Year in which more than 25% of the principal amount of the Bond may be subject to such mandatory purchase on a level annual debt service schedule calculated as described in (a) above.
- (c) Principal and Interest Requirements will be assumed to exclude capitalized interest on Bonds and principal of and interest on Bonds to the extent that amounts are on deposit in an irrevocable escrow or are derived from the proceeds of other

Bonds (including the earnings or other increment to accrue thereon) that must be applied to pay such principal and interest and such amounts are sufficient to pay such principal and interest.

- (d) The interest rate on any Variable Rate Bond will be assumed to be the average interest rate for the most recent 36-month period. However, if the Variable Rate Bond has not been outstanding for 36 months, the interest rate will be assumed to be the higher of (i) the average interest rate in effect for the 12-month period preceding the date of calculation or (ii) the interest rate in effect on the date of calculation.
- (e) For any Bond for which a binding commitment, letter of credit or other credit arrangement providing for the extension of such Bond beyond its original maturity date exists, the computation of Principal and Interest Requirements will be made on the assumption that such Bond will be amortized either (i) in accordance with such credit arrangement or (ii) over a period of 30 years from its original maturity date, whichever is longer.

ARTICLE VIII

EVENTS OF DEFAULT AND REMEDIES

Section 8.1 Events of Default. Each of the following events is hereby declared to be an "Event of Default" under this Resolution:

- (a) due and punctual payment of the principal and of the redemption premium, if any, of any of the Bonds is not made when the same becomes due and payable, either at maturity or by proceedings for redemption or otherwise;
- (b) due and punctual payment of any installment of interest on any of the Bonds is not made when the same becomes due and payable;
- (c) the University unreasonably delays or fails to carry on with reasonable dispatch the construction of any Project for which Bonds are issued under the provisions of this Resolution unless the University receives an opinion from a qualified independent feasibility consultant that such delay or abandonment is in the best interests of the Bondholders;
- (d) the University, for any reason, is rendered incapable of fulfilling its obligations hereunder;
- (e) final judgment for the payment of money is rendered against the University as a result of the ownership, control or operation of the System and any such judgment is not discharged within 60 days from the entry thereof or an appeal is not taken therefrom or from the order, decree or process upon which or pursuant to which such judgment has been granted or entered, in such manner as to stay the execution of or levy under such judgment, order, decree or process or the enforcement thereof;

- (f) an order or decree is entered, with the consent or acquiescence of the University, appointing a receiver or receivers of the System or any part thereof or of the revenues thereof, or if such order or decree, having been entered without the consent or acquiescence of the University, is not vacated or discharged or stayed on appeal within 60 days after the entry thereof;
- (g) any proceeding is instituted, with the consent or acquiescence of the University, for the purpose of effecting a composition between the University and its creditors or for the purpose of adjusting the claims of such creditors pursuant to any federal or state statute now or hereafter enacted, if the claims of such creditors are under any circumstances payable from Revenues;
- (h) the University defaults in the due and punctual performance of any other of the covenants, conditions, agreements and provisions contained in the Bonds or in this Resolution on the part of the University to be performed, and such default continues for 30 days after written notice specifying such default and requiring same to be remedied is given to the Board by any Bondholder provided that if such default is such that it can be corrected but cannot be corrected within such 30 day period, it shall not constitute an Event of Default if corrective action is instituted by the University within such period and is diligently pursued until the default is corrected; or
- (i) an Event of Default occurs under any Parity Indebtedness or Parity Interest Rate Agreement.
- **Section 8.2** Remedies. (a) Upon the happening and continuance of an Event of Default, hereunder, the Holders of not less than 25% in aggregate principal amount of the Bonds, by instrument or instruments filed with the University and proved or acknowledged in the same manner as a deed to be recorded, may appoint a trustee to represent the Holders of the Bonds for the purposes herein, which trustee may be the State Treasurer and shall be the same trustee so appointed with respect to all other outstanding Parity Indebtedness and Parity Swap Obligations. Such trustee may, and upon written request of the Holders of not less than 25% in principal amount of the Bonds then outstanding shall, in its own name:
 - (1) by mandamus or other suit, action or proceeding at law or in equity enforce all rights of the Holders of the Bonds, including the right to require the University and its Board to collect fees, rents, charges or other revenues adequate to carry out an agreement as to, or pledge of, such revenues, and to require the University and Board to carry out any other agreements with the Holders of the Bonds and to perform it and their duties under the Act;
 - (2) bring suit upon the Bonds;
 - (3) by action or suit in equity, require the University to account as if it were the trustee of an express trust for the Holders of the Bonds; or

- (4) by action or suit in equity, enjoin any acts or things which may be unlawful or in violation of the rights of the Holders of the Bonds.
- (b) Any such trustee, whether or not all such Bonds have been declared due and payable, shall be entitled as of right to the appointment of a receiver who may enter and take possession of any property of the University any of the Revenues from which are pledged for the security of the Bonds and operate and maintain the same and collect and receive all fees, rents, charges and other revenues thereafter arising therefrom in the same manner as the University itself might do and shall deposit all such moneys in a separate account and apply the same in such manner as the court appointing such receiver shall direct. In any suit, action or proceeding by the trustee the fees, counsel fees and expenses of the trustee and of the receiver, if any, shall constitute taxable costs and disbursements and all costs and disbursements allowed by the court shall be a first charge on any fees, rents, charges and other Revenues of the University pledged for the security of the Bonds.

Such trustee shall, in addition to the foregoing, have and possess all of the powers necessary or appropriate for the exercise of any functions specifically set forth herein or incident to the general representation of the Holders of the Bonds in the enforcement and protection of their rights.

- (c) To the extent permitted by law, upon the happening and continuance of any Event of Default, then and in every such case any Bondholder may proceed, subject to the provisions of Sections 8.5 and 8.6, to protect and enforce the rights of the Bondholders by a suit, action or special proceeding in equity or at law, either for the specific performance of any covenant or agreement contained herein or in aid or execution of any power herein granted or for the enforcement of any proper legal or equitable remedy as such Bondholder shall deem most effectual to protect and enforce such rights. If necessary and if not inconsistent with the terms of this Resolution or the applicable Series Resolution, the Paying Agent will make any appropriate demands upon the issuers of the Reserve Fund Credit Facility Agreement or the Credit Facility Agreement.
- Section 8.3 Pro Rata Application of Funds. Anything in this Resolution to the contrary notwithstanding, if at any time the moneys in the Debt Service Fund shall not be sufficient to pay the interest on or the principal of the Bonds as the same shall become due and payable, such moneys, together with any moneys then available or thereafter becoming available for such purpose, whether through the exercise of the remedies provided for in this Article or otherwise, shall be applied first to the payment of any fees and expenses of the Custodian, Paying Agent and Registrar and thereafter shall be applied as follows:
 - (a) If the principal of all the Bonds shall not have become due and payable, all such moneys shall be applied

FIRST: to the payment to the persons entitled thereto of all installments of interest then due and payable in the order in which such installments became due and payable and, if the amount available shall not be sufficient to pay in full any

particular installment, then to the payment, ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference except as to any difference in the respective rates of interest specified in the Bonds;

SECOND: to the payment to the persons entitled thereto of the unpaid principal of any of the Bonds which shall have become due and payable (other than Bonds called for redemption for the payment of which moneys are held pursuant to the provisions of this Resolution), in the order of their due dates, with interest on the principal amount of such Bonds at the respective rates specified therein from the respective dates upon which such Bonds became due and payable, and, if the amount available shall not be sufficient to pay in full the principal of the Bonds due and payable on any particular date, together with such interest, then to the payment first of such interest, ratably, according to the amount of such interest due on such date, and then to the payment of such principal, ratably, according to the amount of such principal due on such date, to the persons entitled thereto without any discrimination or preference; and

THIRD: to the payment of the interest on and the principal of the Bonds, to the purchase and retirement of Bonds and to the redemption of Bonds, all in accordance with the provisions of Article V of this Resolution.

(b) If the principal of all the Bonds shall have become due and payable, all such moneys shall be applied

FIRST: to the payment to the persons entitled thereto of all installments of interest due and payable if any, in the order in which such installments became due and payable and, if the amount available shall not be sufficient to pay in full any particular installment, then to the payment, ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference except as to any difference in the respective rates of interest specified in the Bonds; and

SECOND: to the payment of the principal of the Bonds, ratably, to the persons entitled thereto, without preference or priority of any Bond over any other Bond.

Whenever moneys are to be applied by the trustee pursuant to the provisions of this Section, such moneys shall be applied by the trustee at such times, and from time to time, as the trustee in his or her sole discretion shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future; the deposit of such moneys with the Paying Agent, or otherwise setting aside such moneys, in trust for the proper purpose shall constitute proper application by the trustee; and the trustee shall incur no liability whatsoever to the Board, to any Bondholder or to any other persons for any delay in applying any such moneys, so long as the trustee acts with reasonable diligence, having due regard to the circumstances, and ultimately applies the same in

accordance with such provisions of this Resolution as may be applicable at the time of application by the trustee. Whenever the trustee shall exercise such discretion in applying such moneys, he or she shall fix the date (which shall be an interest payment date unless the trustee shall deem another date more suitable) upon which such application is to be made and upon such date interest on the amounts of principal to be paid on such date shall cease to accrue. The trustee shall give such notice (or shall cause the Paying Agent to give such notice) as he or she may deem appropriate of the fixing of any such date and shall not be required to make payment to the holder of any Bond until such Bond shall be surrendered to the trustee or the Paying Agent for appropriate endorsement, or for cancellation if fully paid. Nothing in this Section 8.3 shall entitle the holder of any Bond to any moneys in the Reserve Fund except moneys, if any, held in the account therein for the Series of Bonds of which his or her bond is one.

- Section 8.4 <u>Effect of Discontinuance of Proceedings</u>. In case any proceeding taken by any Bondholder on account of any Event of Default shall have been discontinued or abandoned for any reason, then and in every such case the University and the Bondholders shall be restored to their former positions and rights hereunder, respectively, and all rights and remedies of the Bondholders shall continue as though no such proceedings had been taken.
- Section 8.5 <u>Proceedings for Equal Benefit of All Bondholders</u>. No Bondholder shall have any right in any manner whatever to affect, disturb or prejudice the security of this Resolution or to enforce any right hereunder, except in the manner herein provided, and all proceedings at law or in equity shall be instituted, had and maintained for the equal benefit of all Bondholders.
- Section 8.6 No Remedy Exclusive. (a) No remedy herein conferred on the Bondholders is intended to be exclusive of any other remedy or remedies, and each and every remedy conferred shall be cumulative and shall be in addition to every other remedy given hereunder and under the Act, including, without limitation, the benefits to which the Bondholders shall be entitled pursuant to paragraph (b) of this Section 8.6, or now or hereafter existing at law or in equity or by statute.
- (b) To the extent permitted by the terms of the Act and not inconsistent with any provision of this Resolution or any Series Resolution applicable to the Bonds of a Series, Bondholders shall be entitled to the same rights and remedies provided for in Sections 23-20 and 23-26 of Title 23 that are available to the holders of bonds issued pursuant to the General Higher Education Bond Act, whether or not an Event of Default has occurred.
- Section 8.7 No Delay or Omission Construed to Be a Waiver. No delay or omission of any Bondholder to exercise any right or power accruing upon any Event of Default occurring and continuing as aforesaid shall impair any such right or power or shall be construed to be a waiver of any such Event of Default or an acquiescence therein; and every power and remedy given by this Article to the Bondholders may be exercised from time to time and as often as may be deemed expedient.

ARTICLE IX

EXECUTION OF INSTRUMENTS BY BONDHOLDERS AND PROOF OF OWNERSHIP OF BONDS

- Section 9.1 Execution of Instruments; Proof of Ownership. Any request, direction, consent or other instrument in writing required or permitted by this Resolution to be signed or executed by Bondholders may be in any number of concurrent instruments of similar tenor and may be signed or executed by such Bondholders or their attorneys or legal representatives. Proof of the execution of any such instrument and of the ownership of Bonds shall be sufficient for any purpose of this Resolution and shall be conclusive in favor of the University and the Paying Agent with regard to any action taken by them under such instrument if made in the following manner:
 - (a) The fact and date of the execution by any person of any such instrument may be proved by the verification of any officer in any jurisdiction who, by the laws thereof, has power to take affidavits within such jurisdiction, to the effect that such instrument was subscribed and sworn to before him, or by an affidavit of a witness to such execution. Where such execution is by an officer of a corporation or association or a member of a partnership on behalf of such corporation, association or partnership such verification or affidavit shall also constitute sufficient proof of his authority.
 - (b) The fact of the holding of Bonds hereunder by any Bondholder and the amount and the numbers of such Bonds and the date of its holding the same shall be proved by the registration books kept under the provisions of Section 2.7.

ARTICLE X

SUPPLEMENTAL AND SERIES RESOLUTIONS

- **Section 10.1** Supplemental Resolutions. The University may, from time to time and at any time, without the consent of any holders of the Bonds, adopt such resolutions supplemental hereto as shall not be inconsistent with the terms and provisions hereof (which supplemental resolutions shall thereafter form a part hereof), as follows:
 - (a) to cure any ambiguity or formal defect or omission or to correct any inconsistent provisions in this Resolution or in any supplemental resolution,
 - (b) to provide for the issuance of uncertificated Bonds pursuant to Section 2.2 of this Resolution, or to obtain or maintain a rating for one or more Series of the Bonds,
 - (c) to grant to or confer upon the Bondholders any additional rights, remedies, powers, authority or security that may lawfully be granted to or conferred upon the Bondholders,

- (d) to add to the conditions, limitations and restrictions on the issuance of Bonds under the provisions of this Resolution other conditions, limitations and restrictions thereafter to be observed.
- (e) to add to the covenants and agreements of the Board in this Resolution other covenants and agreements thereafter to be observed by the Board or to surrender any right or power herein reserved to or conferred upon the Board,
- (f) to comply with any proposed, temporary or permanent regulations regarding the arbitrage rebate requirements of the Code, to comply with any other provision of the Code to maintain the tax-exempt status of interest on the Bonds, or to comply with Federal or state securities or "blue-sky" laws,
- (g) to provide for the financing of any project permitted by the Act and the pledging of any revenues permitted by the Act, provided that subsequent to such financing or pledge the University shall be in compliance with all of the terms, covenants and provisions of this Resolution, or
- (h) to modify, alter, amend, add to or rescind, in any particular, any of the terms or provisions contained in this Resolution, if in the opinion of the Paying Agent, who may rely upon a written opinion of counsel nationally recognized in matters concerning municipal bonds, such supplemental resolution shall not materially adversely affect or prejudice the interests of the Bondholders.

At least thirty (30) days prior to the adoption of any supplemental resolution for any of the purposes of this Section, an Authorized Officer of the University shall cause a notice of the proposed adoption of such supplemental resolution to be mailed, postage prepaid, to all registered owners of Bonds at their addresses as they appear on the registration books. Such notice shall briefly set forth the nature of the proposed supplemental resolution and shall state that copies thereof are on file at the office of the Secretary of the Board for inspection by all Bondholders. Failure on the part of an Authorized Officer of the University to mail the notice required by this Section shall not affect the validity of such supplemental resolution.

Section 10.2 <u>Series Resolutions</u>. The University may from time to time adopt a Series Resolution or Resolutions in order to issue Bonds of any Series hereunder. Subject to Section 2.10, such Series Resolution shall set forth any additional terms and provisions for the Bonds of such Series to the extent not inconsistent with the provisions hereof. The consent of the holders of Bonds of any Series outstanding under this Resolution shall not be required (a) to adopt a Series Resolution providing for the issuance of Bonds of another Series or (b) for the issuance of any Parity Indebtedness, Parity Swap Obligations or Subordinate Obligations.

Section 10.3 <u>Modification of the Resolution with Consent of Holders</u>. Subject to the terms and provisions contained in this Section, and not otherwise, the holders of not less than a majority in aggregate outstanding principal amount of each Series of Bonds of all Series then outstanding shall have the right, from time to time, anything contained in this Resolution to the contrary notwithstanding, to consent to and approve the adoption of such resolution or

resolutions supplemental hereto as shall be deemed necessary or desirable by the Board for the purpose of modifying, altering, amending, adding to or rescinding, in any particular, any of the terms or provisions contained in this Resolution or in any supplemental resolution; provided, however, that nothing herein contained shall permit, or be construed as permitting without the approval of all of the Bondholders, (a) an extension of the maturity of the principal of or the interest on any Bond issued hereunder, (b) a reduction in the principal amount of any Bond or the redemption premium or the rate of interest thereon, (c) except as provided herein, the creation of a lien upon or a pledge of Revenues other than the lien and pledge created by this Resolution and liens and pledges permitted by this Resolution, or (d) except as provided herein, a preference or priority of any Bond or Bonds over any other Bond or Bonds, (e) the issuance of indebtedness payable from Net Revenues senior to or on a parity with the Bonds except as provided herein, or (f) a reduction in the aggregate principal amount of the Bonds required for consent to such supplemental resolution. Nothing herein contained, however, shall be construed as making necessary the approval by Bondholders of the adoption of any supplemental resolution as authorized in Section 10.1.

If at any time the Board shall determine that it is necessary or desirable to adopt any supplemental resolution for any of the purposes of this Section, an Authorized Officer shall cause notice of the proposed adoption of such supplemental resolution to be mailed, not less than 30 nor more than 60 days prior to the date of such adoption, postage prepaid, to all registered owners of the Bonds at their addresses as they appear on the registration books held by the Registrar. Such notice shall briefly set forth the nature of the proposed supplemental resolution and shall state that copies thereof are on file at the office of the Secretary of the Board for inspection by all Bondholders. The Board shall not, however, be subject to any liability to any Bondholder by reason of its failure to cause the notice required by this Section to be mailed and any such failure shall not affect the validity of such supplemental resolution when consented to and approved as provided in this Section.

Whenever, at any time within one year after the date of such notice, the Board shall deliver to the Paying Agent an instrument or instruments in writing purporting to be executed by the holders of not less than a majority or all, as appropriate, in aggregate principal amount of the Bonds of all Series then outstanding, which instrument or instruments shall refer to the proposed supplemental resolution described in such notice and specifically consent to and approve the adoption thereof in substantially the form of the copy thereof referred to in such notice, thereupon, but not otherwise, the Board may adopt such supplemental resolution in substantially such form, without liability or responsibility to any holder of any Bond, whether or not such holder shall have consented thereto.

If the holders of not less than a majority or all, as appropriate, in aggregate principal amount of the Bonds of all Series outstanding at the time of the adoption of such supplemental resolution shall have consented to and approved the adoption thereof as herein provided, no Bondholder shall have any right to object to the adoption of such supplemental resolution, or to object to any of the terms and provisions contained therein or the operation thereof, or in any manner to question the propriety of the adoption thereof, or to enjoin or restrain the Board from adopting the same or from taking any action pursuant to the provisions thereof.

Notwithstanding the foregoing, if any supplemental resolution described in this Section affects the holders of less than all of the Series of Bonds outstanding under this Resolution, only the holders of the Bonds of the Series affected by such supplemental resolution need give their approval, as set forth herein.

Upon the adoption of any supplemental resolution pursuant to the provisions of this Section, this Resolution shall be and be deemed to be modified and amended in accordance therewith, and the respective rights, duties and obligations under this Resolution of the University, the Board and all holders of Bonds then outstanding shall thereafter be determined, exercised and enforced in all respects under the provisions of this Resolution as so modified and amended.

Section 10.4 <u>Supplemental Resolutions Part of This Resolution</u>. Any supplemental resolution adopted in accordance with the provisions of this Article shall thereafter form a part of this Resolution, and all of the terms and conditions contained in any such supplemental resolution as to any provision authorized to be contained therein shall be and shall be deemed to be part of the terms and conditions of this Resolution for any and all purposes. In case of the adoption and approval of any supplemental resolution, express reference may be made thereto in the text of any Bonds issued thereafter, if deemed necessary or desirable by the Board.

Section 10.5 Amendments to Resolution Prior to Delivery of First Series of Bonds. On or prior to the delivery of the first Series of Bonds pursuant to Section 2.10 hereof, the Chief Financial Officer or the University Treasurer may make such changes to, and complete any blanks in, this Resolution as shall be necessary to accurately reflect the structure and terms of the financing. On or prior to the delivery of the first Series of Bonds hereunder, the Chief Financial Officer or the University Treasurer shall deliver to the Secretary of the Board a copy of this Resolution with all of the changes and completions referred to in the preceding sentence (the "Final Resolution"), together with a certificate of the Chief Financial Officer or the University Treasurer to the effect that the resolution so delivered is the Final Resolution. The Secretary shall file such Final Resolution with the minutes of the meeting at which this Resolution is adopted. The certificate of the Chief Financial Officer or the University Treasurer referred to above shall be conclusive evidence that any changes made are approved and effective as if such Final Resolution were adopted by the Board.

ARTICLE XI

DEFEASANCE

Section 11.1 <u>Defeasance</u>. If, when the Bonds of any Series secured hereby shall have become due and payable in accordance with their terms or shall have been duly called for redemption or irrevocable instructions to call such Bonds for redemption shall have been given by the University to the Paying Agent, the whole amount of the principal, premium, if any, and the interest so due and payable upon all of such Bonds then outstanding shall be paid or sufficient moneys (as verified by certified public accountants upon request of the Paying Agent), or direct obligations of the United States of America or securities unconditionally guaranteed as to the timely payment of principal and interest by the United States of America, the principal of

and the interest on which when due upon maturity or the earliest redemption date (if such obligations are subject to redemption prior to maturity) will provide sufficient moneys, shall be held by the Paying Agent for such purpose under the provisions of this Resolution and the Series Resolution under which such Bonds were issued, and provision shall also be made for paying all other sums payable hereunder by the University, then and in that case the right, title and interest of the holders of such Bonds in the Revenues, funds and accounts mentioned in this Resolution shall thereupon cease, determine and become void. If all the Bonds of all Series issued hereunder shall have been paid or provided for, the Board in such case, shall repeal and cancel this Resolution and may apply any surplus in any account in the Debt Service Fund and all balances remaining in any other funds or accounts (other than moneys held for the redemption or payment of Bonds or funds representing any Rebate Amount to be paid to the United States of America) to any lawful purpose of the University as the University shall determine; otherwise this Resolution shall be, continue and remain in full force and effect; provided, however, that in the event direct obligations of the United States of America or securities unconditionally guaranteed as to the timely payment of principal and interest by the United States of America, shall be deposited with and held by the Paying Agent as hereinabove provided, and in addition to the requirements set forth in Article III of this Resolution, the Paying Agent shall within 30 days after such obligations shall have been deposited with it cause a notice to be mailed to each Bondholder at its address as set forth in the registration books held by the Registrar setting forth (a) the date designated for the redemption of the Bonds, (b) a description of the obligations so held by it, (c) if this Resolution has been repealed and canceled in accordance with the provisions of this Section and (d) whether the University has retained the right to call the Bonds for redemption prior to their maturity.

All moneys and obligations held by the Paying Agent pursuant to this Section shall be held in trust and the principal and interest of said obligations when received, and said moneys, applied to the payment, when due, of the principal and the interest and the premium, if any, of the Bonds at maturity or upon their redemption date if so called for redemption.

ARTICLE XII

PAYING AGENT AND REGISTRAR

Section 12.1 Paying Agent. (a) The Paying Agent and any successor Paying Agent, by written instrument delivered to the University shall accept the duties and obligations imposed on it under this Resolution and shall act on behalf of the Bondholders. Unless a separate Registrar is appointed by the Chief Financial Officer or the University Treasurer, the Paying Agent shall assume the duties and obligations imposed on the Registrar.

Section 12.2 <u>Successor Paying Agents or Registrars</u>. Any bank or trust company authorized to do business in the Commonwealth may be appointed by the University as successor Paying Agent or Registrar hereunder and immediately upon acceptance of such appointment shall be deemed the successor of the Paying Agent or Registrar for the purposes of this Resolution. The University shall give notice to any Rating Agency of its appointment of any successor Paying Agent or Registrar. The reasonable fees and expenses of any such successor

Paying Agent or Registrar shall be the sole obligation of the University and shall constitute a pledge of the Net Revenues prior to the Bonds, to the extent such fees and expenses are unpaid.

Section 12.3 No Risk to Paying Agent Funds. No provision herein shall require the Paying Agent to expend its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of any of its rights or powers unless the Paying Agent shall have reasonable grounds for believing that repayment of such funds or adequate indemnity against such risk or liability is reasonably assured to it.

Section 12.4 Paying Agent/Registrar/Custodian Reliance and Other Matters. For purposes of this Section 12.4 only, the term "Paying Agent" shall refer to the Paying Agent, the Registrar and the Custodian. The Paying Agent undertakes to perform only such duties as are expressly set forth herein. The duties and responsibilities of the Paying Agent hereunder shall be determined solely by the express provisions of the Resolution, and no further duties or responsibilities shall be implied. The Paying Agent shall not have any liability under, nor duty to inquire into the terms and provisions of, any agreement or instructions, other than as outlined in the Resolution. The Paying Agent may consult with counsel and may rely conclusively and shall be protected in acting or refraining from acting upon any written notice, electronically transmitted communication, instruction or request furnished to it hereunder and believed by it to be genuine and to have been signed or presented by the proper party or parties. The Paying Agent shall be under no duty to inquire into or investigate the validity, accuracy or content of any such document. The Paying Agent shall have no duty to solicit any payments that may be due it hereunder. The Paying Agent shall not be liable for any action taken or omitted by it in good faith unless a court of competent jurisdiction determines that any loss to the University was the result of the Paying Agent's negligent or willful misconduct. The Paying Agent shall not incur any liability for following the instructions herein contained or expressly provided for, or written instructions given by the University. In the administration of its duties under the Resolution, the Paying Agent may execute any of its powers and perform its duties hereunder directly or through agents or attorneys and may consult with counsel, accountants and other skilled persons to be selected and retained by it. The Paying Agent shall not be liable for anything done, suffered or omitted in good faith by it in accordance with the advice or opinion of any such counsel, accountants or other skilled persons. The Paying Agent may resign and be discharged of its duties and obligations hereunder by giving notice in writing of such resignation specifying a date when such resignation shall take effect. Any corporation or association into which the Paying Agent in its individual capacity may be merged or converted or with which it may be consolidated, or any corporation or association resulting from any merger, conversion or consolidation to which the Paying Agent in its individual capacity shall be a party, or any corporation or association to which all or substantially all the corporate trust business of the Paying Agent in its individual capacity may be sold or otherwise transferred, shall be the Paying Agent hereunder without further act. The University covenants and agrees to pay the Paying Agent its fees and expenses (including reasonable attorney's fees, costs and expenses) as agreed upon by the University and the Paying Agent. Furthermore, the University shall pay the Paying Agent for any extraordinary services or expenses performed or incurred by the Paying Agent in connection with its duties under the Resolution provided the University consents in writing prior to the performance of such services or the incurring of such expenses.

The Paying Agent shall not be responsible or liable for any failure or delay in the performance of its obligation under the Resolution arising out of or caused, directly or indirectly, by circumstances beyond its reasonable control, including, without limitation, acts of God, earthquakes, fire, flood, hurricanes or other storms; wars, terrorism, similar military disturbances; sabotage; epidemic, riots, interruptions; loss or malfunctions of utilities, computer (hardware or software) or communications services; accidents; labor disputes; acts of civil or military authority or governmental action; it being understood that the Paying Agent shall use commercially reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as reasonably practicable under the circumstances.

The Paying Agent shall have the right to accept and act upon instructions, including funds transfer instructions ("Instructions") given pursuant to the Resolution and delivered using Electronic Means; provided, however, that the University shall provide to the Paying Agent an incumbency certificate listing Authorized Officers and containing specimen signatures of such Authorized Officers, which incumbency certificate shall be amended by the University whenever a person is to be added or deleted from the listing. If the University elects to give the Paying Agent Instructions using Electronic Means and the Paying Agent in its discretion elects to act upon such Instructions, the Paying Agent's understanding of such Instructions shall be deemed controlling. The University understands and agrees that the Paying Agent cannot determine the identity of the actual sender of such Instructions and that the Paying Agent shall conclusively presume that directions that purport to have been sent by an Authorized Officer listed on the incumbency certificate provided to the Paying Agent have been sent by such Authorized Officer. The University shall be responsible for ensuring that only Authorized Officers transmit such Instructions to the Paying Agent and that the University and all respective Authorized Officers are solely responsible to safeguard the use and confidentiality of applicable user and authorization codes, passwords and/or authentication keys upon receipt by the University. The Paying Agent shall not be liable for any losses, costs or expenses arising directly or indirectly from the Paying Agent's reliance upon and compliance with such Instructions notwithstanding such directions conflict or are inconsistent with a subsequent written instruction. The University agrees: (i) to assume all risks arising out of the use of Electronic Means to submit Instructions to the Paying Agent, including without limitation the risk of the Paying Agent acting on unauthorized Instructions, and the risk of interception and misuse by third parties; (ii) that it is fully informed of the protections and risks associated with the various methods of transmitting Instructions to the Paying Agent and that there may be more secure methods of transmitting Instructions than the method(s) selected by the University; (iii) that the security procedures (if any) to be followed in connection with its transmission of Instructions provide to it a commercially reasonable degree of protection in light of its particular needs and circumstances; and (iv) to notify the Paying Agent immediately upon learning of any compromise or unauthorized use of the security procedures.

"Electronic Means" shall mean the following communications methods: e-mail, facsimile transmission, secure electronic transmission containing applicable authorization codes, passwords and/or authentication keys issued by the Paying Agent, or another method or system specified by the Paying Agent as available for use in connection with its services hereunder.

ARTICLE XIII

MISCELLANEOUS PROVISIONS

Section 13.1 Effect of Covenants. All covenants, stipulations, obligations and agreements of the University and the Board contained in this Resolution shall be deemed to be covenants, stipulations, obligations and agreements of the University and the Board to the full extent authorized by the Act or permitted by the Constitution of Virginia. All such covenants, stipulations, obligations and agreements shall be binding upon the successor or successors thereof from time to time and upon any officer, board, body or commission to whom or to which any power or duty affecting such covenants, stipulations, obligations and agreements shall be transferred by or in accordance with law.

No covenant, stipulation, obligation or agreement herein contained shall be deemed to be a covenant, stipulation, obligation or agreement of any present or future director, member, agent or employee of the University or the Board in his or her individual capacity, and no member of the Board or of any agency of the Commonwealth nor any officer thereof or of the University, present or future, executing the Bonds shall be liable personally on the Bonds or be subject to any personal liability or accountability by reason of the issuance thereof.

Section 13.2 <u>Successor Paying Agents or Registrars</u>. Any bank or trust company authorized to do business in the Commonwealth may be appointed by the University as successor Paying Agent or Registrar hereunder and immediately upon acceptance of such appointment shall be deemed the successor of the Paying Agent or Registrar for the purposes of this Resolution. The University shall give notice to any Rating Agency of its appointment of any successor Paying Agent or Registrar. The reasonable fees and expenses of any such successor Paying Agent or Registrar shall be the sole obligation of the University and shall constitute a pledge of the Revenues prior to the Bonds, to the extent such fees and expenses are unpaid.

- **Section 13.3** Manner of Giving Notice. Any notice, demand, direction, request or other instrument authorized or required by this Resolution to be given or to be filed with the University, the Paying Agent, the Registrar, the Custodian or the Rating Agencies shall be deemed to have been sufficiently given or filed for all purposes of this Resolution if and when sent by registered mail, return receipt requested:
 - (a) to the University, if addressed to the Board of Visitors of Virginia Polytechnic Institute and State University, 220 Burrus Hall, 800 Drillfield Drive, Blacksburg, Virginia 24061, Attention: Chief Financial Officer and University Treasurer;
 - (b) to the Custodian, Paying Agent and/or Registrar, if addressed to The Bank of New York Mellon Trust Company, N.A., 525 William Penn Place, 38th Floor, Pittsburgh, Pennsylvania 15259, Attention: Corporate Trust Administration;
 - (c) to Moody's, if addressed to Moody's Investor Services, 7 World Trade Center, 250 Greenwich Street, New York, New York 10007, Attention: Structured Finance, Telecopier: (212) 298-6442;

- (d) to S&P, if addressed to Standard & Poor's, at 55 Water Street, 38th Floor, New York, New York 10041, Attention: Public Finance Department (Surveillance), Telecopier: (212) 438-2152; and
- (e) to Fitch, if addressed to Fitch Ratings, One State Street Plaza, New York, New York 10004, Attention: Municipal Structured Finance Group, Telecopier: (212) 635-0466.
- Section 13.4 <u>Alternative Notice</u>. If, because of the temporary or permanent suspension of publication of any newspaper or financial journal or suspension of the mails or for any other reason, the University, the Paying Agent or the Custodian shall be unable to give any notice required to be published or mailed by the provisions of this Resolution, the University, the Paying Agent or the Custodian, as the case may be, shall give such notice in such other manner as in the judgment of the University, the Paying Agent or the Custodian shall most effectively approximate such publication thereof, and the giving of such notice in such manner shall for all purposes of this Resolution be deemed to be compliance with the requirement for the publication thereof.
- Section 13.5 <u>Effect of Partial Invalidity</u>. In case any one or more of the provisions of this Resolution or of the Bonds issued hereunder shall for any reason be held to be illegal or invalid, such illegality or invalidity shall not affect any other provision of this Resolution or of said Bonds, but this Resolution and said Bonds shall be construed and enforced as if such illegal or invalid provision had not been contained therein. In case any covenant, stipulation, obligation or agreement contained in the Bonds or in this Resolution shall for any reason be held to be in violation of law, then such covenant, stipulation, obligation or agreement shall be deemed to be the covenant, stipulation, obligation or agreement of the University to the full extent permitted by law.
- **Section 13.6** Governing Law. This Resolution is adopted with the intent that the laws of the Commonwealth shall govern its construction without regard to conflict of law principles.
- **Section 13.7** Repeal of Inconsistent Provisions. Any prior resolutions or provisions of resolutions of the Board inconsistent with any provisions of this Resolution are hereby repealed.
- **Section 13.8** <u>Ratification of Optional Redemption of Series 2004D Bonds</u>. The optional redemption of all of the outstanding Series 2004D Bonds is hereby ratified.
- Section 13.9 Effective Date of this Resolution. This Resolution shall become effective subsequent to its adoption by the Board on the date as determined by an Authorized Officer of the University, any of whom may act, which shall be (a) no earlier than the earliest date as of which all of the following shall have occurred: (i) the University has received the written consents thereto of the Governor and the Treasury Board of the Commonwealth and (ii) the Series 2004D Bonds have been optionally redeemed in full, and (b) no later than the Business Day on which the first Series of Bonds is issued hereunder.

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VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

SEF	RIES	RES	OLUI	ΓΙΟΝ

AUTHORIZING AND SECURING ATHLETIC FACILITIES SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015B

ADOPTED ON AUGUST 31, 2015

EFFECTIVE ON ______, 2015, THE DATE SPECIFIED IN SECTION 6.6

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Exhibit A – Form of Bonds

A SERIES RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY ATHLETIC FACILITIES SYSTEM AND GENERAL REVENUE PLEDGE BONDS, SERIES 2015B, TO PAY A PORTION OF THE COST OF CONSTRUCTING AN ATHLETIC FIELD HOUSE FACILITY; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF AND THE INTEREST ON SUCH BONDS CERTAIN GENERAL REVENUES AND THE NET REVENUES OF THE UNIVERSITY'S ATHLETIC FACILITIES SYSTEM AS PROVIDED HEREIN; AWARDING THE BONDS; APPOINTING THE PAYING AGENT.

RECITALS

- A. By Chapter 11 of Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth of Virginia which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau, or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations, or procedures adopted pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.
- D. By Section 23-38.93 of the Code of Virginia of 1950, as amended, the University retains the authority, and any obligations related to the exercise of such authority, that is granted to institutions of higher education pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.
- E. The Board has adopted an amended and restated resolution providing for the issuance of athletic facilities system revenue bonds pursuant to the Act (the "Master Resolution").
- F. The Board has heretofore determined to construct an approximate 120,000 gross square foot athletic field house facility programmed for multipurpose activities and sized to accommodate sufficient length, width and height necessary for football practice work (the "Project"), which will become a part of the University's Athletic Facilities System (the "System").
 - G. The Board has determined that the Project may be financed under the Act.

- H. For the purpose of providing funds to finance a portion of the costs of the Project and costs to be incurred in connection with the issuance thereof, the Board has determined to issue athletic facilities system and general revenue pledge bonds of the University (the "Bonds") under the Master Resolution pursuant to this Series Resolution.
- I. The Board has ascertained (a) the estimated annual revenues to be derived by the University from its operation and ownership of the System based on the fees, rents and charges to be fixed, charged and collected for or in connection with the use, occupation or services of the facilities comprising the System, and (b) the estimated annual expenses of maintaining, repairing and operating the System, and has determined that sufficient revenues will be derived from its operation and ownership of the System, after the payment of such expenses of maintenance, repair and operation to pay the principal of and the interest on the Bonds hereinafter authorized to be issued under this Series Resolution and to meet other requirements of this Series Resolution and the Master Resolution.
- J. The Board has determined that the Bonds will also be secured by a pledge of certain general revenues of the University as contemplated by the Act and as more particularly described herein.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF VISITORS OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY:

ARTICLE I DEFINITIONS

Section 1.1 <u>Definitions.</u> Unless otherwise required by the context, all terms used herein which are defined in the Master Resolution or in the Recitals hereto shall have the meanings assigned to them therein. These additional terms shall have the following meanings:

"Bonds" means the University's Athletic Facilities System and General Revenue Pledge Bonds, Series 2015B, issued pursuant to this Series Resolution under the Master Resolution.

"Business Day" means a day other than (i) a Saturday, Sunday or other day on which banking institutions in the Commonwealth or the city in which the Designated Office of the Paying Agent is located are authorized or required by law to close or (ii) a day on which the New York Stock Exchange is closed.

"DTC" means The Depository Trust Company and any successor company.

"Fitch" means Fitch Ratings, a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "Fitch" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

"Interest Payment Date" means June 1, 2016, and each June 1 and December 1 thereafter (unless such date is not a Business Day, in which event payment of interest shall be made on the next succeeding Business Day).

"Master Resolution" means that Amended and Restated Resolution providing for the issuance of athletic facilities system revenue bonds, adopted by the Board on August 31, 2015, as it may be supplemented and amended.

"Moody's" means Moody's Investors Service, Inc., a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "Moody's" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

"Parity Credit Obligation" means any Credit Obligation of the University which may be incurred in accordance with the terms of this Series Resolution or has been incurred that is secured on a parity with the pledge of Pledged General Revenues herein, including, without limitation, all other bonds being issued by the University on the date of initial issuance of the Bonds.

"Parity Pledged General Revenue Interest Rate Agreement" shall mean any Interest Rate Agreement, any portion of the payments by the University under which is on a parity as to right to payment from Pledged General Revenues, and is equally and ratably secured by a pledge of such Pledged General Revenues, with the holders of the Bonds.

"Parity Pledged General Revenue Swap Obligations" shall mean the amounts payable by the University to the Hedge Provider pursuant to a Parity Pledged General Revenue Interest Rate Agreement that, as specified in the Parity Pledged General Revenue Interest Rate Agreement, are on a parity as to right to payment from Pledged General Revenues, and are equally and ratably secured by a pledge of such Pledged General Revenues, with the holders of the Bonds.

"Pledged General Revenues" means any or all of the revenues now or hereafter available to the University which are not required by law, by binding contract entered into prior to the date of this Series Resolution or by the provisions of any Qualifying Senior Obligation to be devoted to some other purpose, and shall include, without limitation, all revenues pledged to the payment of any Qualifying Senior Obligation net of amounts necessary to pay it or any operating or other expenses, the payment of which is required or permitted to be made with such revenues prior to the payment of such Qualifying Senior Obligation.

"Qualifying Senior Obligation" means any existing Credit Obligation other than a Parity Credit Obligation secured by a pledge of any portion of the Pledged General Revenues, and any additional Credit Obligation issued pursuant to Section 4.2(b) or 4.2(c) or to refund any Qualifying Senior Obligation as described in Section 4.2(e).

"Rating Agency" means Moody's, S&P and/or Fitch, if any or all of such rating agencies have provided a rating for the Bonds. If any such corporation ceases to act as a securities rating agency, the University may appoint any nationally recognized securities rating agency as a replacement.

"Record Date" means the 15th day of the month preceding each Interest Payment Date, whether or not such 15th day is a Business Day.

"Resolution" means the Master Resolution, as supplemented by this Series Resolution, together with all supplements and amendments thereto.

"Securities Depository" means DTC and any other securities depository for the Bonds appointed pursuant to Section 2.7.

"Series Resolution" means this Series Resolution, together with all supplements and amendments hereto.

"S&P" means Standard & Poor's, a Division of The McGraw-Hill Companies, a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such division shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "S&P" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

"Underwriters" mean a group of underwriters managed or co-managed by Merrill Lynch, Pierce, Fenner & Smith Incorporated, Davenport & Company, LLC, Morgan Stanley & Co., LLC, and Wells Fargo Bank, National Association.

ARTICLE II FORM, EXECUTION, DELIVERY, REGISTRATION AND PAYMENT OF BONDS; TAX COVENANTS

Section 2.1 Form of Bonds. The Bonds issued under the provisions of Section 2.2 shall be substantially in the form set forth in Exhibit A attached hereto, with such appropriate variations, omissions or insertions as are permitted or required by the Resolution.

Section 2.2 <u>Issuance of Bonds</u>. There shall be initially issued under and secured by the Resolution, Bonds of the University in the aggregate principal amount of \$750,000 for the purpose of providing funds to finance a portion of the Cost of the Project. The Bonds shall be designated "Virginia Polytechnic Institute and State University Athletic Facilities System and General Revenue Pledge Bonds, Series 2015B", shall be dated their date of initial issuance, shall be numbered R-1 and up, shall be issued in denominations of \$5,000 or whole multiples of \$5,000 and shall mature on June 1 in such amounts and in such years as will be determined by the Chief Financial Officer or the University Treasurer prior to the issuance of the Bonds. The Bonds shall bear interest at the rate or rates to be approved by the Chief Financial Officer or the University Treasurer, with a true interest cost not to exceed 5.00% per annum. The execution of the Bonds by the University's President and by the Chief Financial Officer or the University Treasurer shall be conclusive evidence of the requisite approval of the maturity schedule (including any mandatory sinking fund redemption schedule) and the rate or rates payable on the Bonds.

Interest on the Bonds shall be payable on each Interest Payment Date. Each Bond shall bear interest from the Interest Payment Date next preceding the date on which it is authenticated, unless any Bond is (a) authenticated before the first Interest Payment Date following the initial delivery of the Bonds, in which case it shall bear interest from its dated date or (b) authenticated upon an Interest Payment Date, in which case it shall bear interest from such Interest Payment

Date; provided, however, that if at the time of authentication of any Bond interest is in default, such Bond shall bear interest from the date to which interest has been paid.

- **Section 2.3** Computation of Interest. Interest on the Bonds shall be computed on the basis of a 360-day year of twelve 30-day months and shall be payable on each Interest Payment Date or other date fixed for the redemption or maturity of the Bonds.
- Section 2.4 Payment of Interest on and Principal of Bonds. Principal of and premium, if any, and interest on the Bonds shall be payable in lawful money of the United States of America, but only from the revenues lawfully available therefor pursuant to the Act and pledged to the payment thereof as hereinafter provided. Principal of and premium, if any, on the Bonds shall be payable upon presentation and surrender of the Bonds as they become due at the Designated Office of the Paying Agent. Interest on Bonds shall be payable to the registered owners of Bonds by check or draft mailed to such owners at their addresses as they appear on registration books kept by the bond registrar on the 15th day of the month preceding the applicable Interest Payment Date.
- Section 2.5 Payments to Bondholders. The University shall, at appropriate times on or before each Interest Payment Date or date on which principal of the Bonds comes due, whether by redemption or maturity, determine the amount required to pay principal of, redemption premium, if any, and interest on the Bonds then coming due and whether there are sufficient amounts available in the Debt Service Fund (such moneys are referred to as the "Sinking Fund Moneys Available for Payment") to pay the principal of, redemption premium, if any, and interest on the Bonds then coming due. If such Sinking Fund Moneys Available for Payment are determined by the University to be insufficient to make such payment then coming due on the Bonds, the University shall make available to the Paying Agent from Revenues or from Pledged General Revenues or other available moneys referred to in Section 7.14 of the Master Resolution, not later than 10:00 a.m., New York time, on the date such sums are due, an amount, which when added to the Sinking Fund Moneys Available for Payment, will be sufficient to pay the principal of, redemption premium, if any, and interest on the Bonds then coming due, and the Paying Agent shall pay or cause the same to be paid to the holders of the Bonds when due.
- **Section 2.6** Application of Proceeds of Bonds. The proceeds from the sale of the Bonds shall be deposited into the Construction Fund to be used in accordance with the Master Resolution to pay the Cost of the Project and the costs of issuing the Bonds.
- **Section 2.7** <u>Book Entry Provisions</u>. The provisions of this Section 2.7 shall apply to the Bonds so long as all of the Bonds shall be maintained in book-entry form with a Securities Depository, any other provisions of this Series Resolution to the contrary notwithstanding.
- (a) The principal or redemption price of and interest on the Bonds shall be payable to the Securities Depository, or registered assigns, as the registered owner of the Bonds, in same day funds on each date on which the principal of, and premium, if any, or interest on the Bonds is due as set forth in this Series Resolution and in the Bonds. Such payments shall be made to the offices of the Securities Depository specified by the Securities Depository to the University and Paying Agent in writing. Without notice to or the consent of the beneficial owners of the

Bonds, the University and the Securities Depository may agree in writing to make payments of principal and interest in a manner different from that set out herein. If such different manner of payment is agreed upon, the University shall give the Paying Agent written notice thereof, and the Paying Agent shall make payments as if set forth herein. Neither the University nor the Paying Agent shall have any obligation with respect to the transfer or crediting of the appropriate principal, premium, if any, and interest payments to participants of the Securities Depository or the beneficial owners of the Bonds or their nominees.

- (b) The Paying Agent, at the written direction of the University, may replace any Securities Depository as the depository for the Bonds with another qualified Securities Depository or discontinue the maintenance of the Bonds in book-entry form at any time if the University determines to do so. Notice of any determination above shall be given to such Securities Depository at least 30 days prior to any such discontinuation (or such fewer number of days as shall be acceptable to such Securities Depository). The University may undertake to locate a qualified replacement Securities Depository and/or may discontinue the book-entry system of evidencing ownership of the Bonds.
- (c) If the University discontinues the maintenance of the Bonds in book-entry form, the University will issue replacement Bonds directly to the participants in the former Securities Depository or, to the extent requested by any such participant, to the beneficial owners of Bonds as further described in this Section. The Paying Agent, at the written direction of the University, shall notify participants and the beneficial owners of the Bonds, by mailing an appropriate notice to the Securities Depository, or by other means deemed appropriate by either the Securities Depository or the Paying Agent, that the University will issue replacement Bonds directly to the participants shown on the records of the Securities Depository or, to the extent requested by any participant, to beneficial owners of the Bonds shown on the records of such participant, as of a date set forth in such notice, which shall be a date at least 10 days after receipt of such notice by the Securities Depository (or such fewer number of days as shall be acceptable to the Securities Depository).

In the event that replacement Bonds are to be issued to participants in the Securities Depository or to beneficial owners of the Bonds, the University shall promptly have prepared replacement Bonds registered in the names of the participants as shown on the records of the former Securities Depository or, to the extent requested by any participant, in the names of the beneficial owners of Bonds shown on the records of such participant, as of the date set forth in the notice delivered in accordance with the immediately preceding paragraph. Replacement Bonds issued to participants in the Securities Depository or to beneficial owners shall be in fully registered form substantially in the form of Exhibit A. The form set forth in Exhibit A may be modified to include any variations, omissions or insertions that are necessary or desirable in the delivery of replacement certificates in printed form. In delivering replacement certificates, the Paying Agent shall be entitled to rely, without independent investigation, on the records of the former Securities Depository as to its participants and the records of the participants acting on behalf of the beneficial owners. The Bonds will thereafter be registrable and exchangeable as set forth in the Master Resolution.

(d) So long as there is a Securities Depository for the Bonds, (1) such Securities Depository shall be the registered owner of the Bonds, (2) transfers of ownership and exchanges

shall be effected on the records of the Securities Depository and its participants pursuant to rules and procedures established by such Securities Depository and its participants, and (3) references in this Series Resolution to Bondholders, holders or registered owners of the Bonds shall mean the Securities Depository and shall not mean the beneficial owners of the Bonds.

- (e) If the University replaces any Securities Depository as the depository for the Bonds with another qualified Securities Depository, replacement Bonds issued to such replacement Securities Depository shall have the same terms, form and content as the Bonds initially registered in the name of the predecessor Securities Depository or its nominee except for the name of the registered owner.
- (f) Each Securities Depository and the participants thereof and the beneficial owners of the Bonds, by their acceptance of the Bonds, agree that the University and the Paying Agent shall have no liability or responsibility with respect to (1) the accuracy of any records maintained by such Securities Depository or any Securities Depository participant; (2) the payment by such Securities Depository to any Securities Depository participant or by any Securities Depository participant to any beneficial owner of any amount due in respect of the principal of and premium, if any, and interest on the Bonds; (3) the delivery or timeliness of delivery by such Securities Depository to any Securities Depository participant or by any Securities Depository participant to any beneficial owner of any notice which is given to Bondholders; (4) the selection of the beneficial owners to receive payment in the event of any partial redemption of the Bonds; or (5) any consent given or other action taken by such Securities Depository or any nominee of such Securities Depository, as Bondholder.
- Section 2.8 Tax Covenants. (a) The University shall not use or permit the use of any proceeds of Bonds or any other funds of the University directly or indirectly, to acquire any securities or obligation, and shall not use or permit the use of any amounts received by the University or the Custodian with respect to the Bonds in any manner, and shall not take or permit to be taken any other action or actions, which would cause any Bond to be an "arbitrage bond" within the meaning of Section 148 of the Code. If at any time the University is of the opinion that for purposes of this subsection it is necessary to restrict or limit the yield on the investment of any moneys held or controlled by it under this Series Resolution, the University shall so instruct the Custodian, any trustee or the Paying Agent in writing, and the Custodian, trustee or Paying Agent shall take such action as may be reasonably necessary in accordance with such instructions.
- (b) The University shall not use or permit the use of any proceeds of Bonds or any other funds of the University, directly or indirectly, in any manner, and shall not take or permit to be taken any other action or actions, which would result in any of the Bonds being treated as an obligation not described in Section 103(a) of the Code by reason of classification of such Bond as a "private activity bond," an "arbitrage bond" or "bond not in registered form" within the meaning of Section 103(b) of the Code.
- (c) The University shall at all times do and perform all acts and things permitted by law and this Series Resolution which are necessary or desirable in order to assure that interest paid on the Bonds or any of them will be excludable from gross income for federal income tax

purposes and shall take no action that would result in such interest not being excludable from gross income for federal income tax purposes.

- (d) The University covenants that no more than 10% of the space in the Project will be leased to or used exclusively by a private entity nor will more than 10% of the revenues to be derived from the Project be payable, directly or indirectly, by a private entity.
- (e) The University covenants that it shall file the information reports with respect to the Bonds required by Section 149(e) of the Code (currently Form 8038-G) within the time periods provided in such Section.
- (f) The University represents that the Bonds are not and will not be "federally guaranteed," as such term is used in Section 149(b) of the Code.
- (g) Notwithstanding the foregoing, the University may amend this section or alter or eliminate any actions or restrictions allowed or required by this section, if it receives an opinion of Bond Counsel that such amendments, alterations or eliminations would not alter the Bondholders' U.S. federal income tax treatment of principal and interest payments on the Bonds.
- Section 2.9 Arbitrage Rebate. The University, at its expense, shall take all steps necessary to cause the requirements of Section 148 of the Code to be complied with, including but not limited to all reporting and rebate requirements. Without limiting the generality of the foregoing the University, at its sole expense, shall: (i) pay the amount required to be paid to the United States of America in accordance with the rebate requirement described in Section 148(f) of the Code (the "Rebate Amount"); (ii) determine the Rebate Amount for each bond year and upon payment in full of all amounts due under the Bonds; (iii) retain records of all such determinations until six years after payment in full of all amounts due under the Bonds; and (iv) comply with any similar requirements contained in any temporary, proposed or permanent regulations of the Internal Revenue Service adopted with respect to Section 148(f) of the Code.

Notwithstanding anything to the contrary in this Series Resolution, no payment shall be made by the University to the United States of America if the University obtains an opinion of Bond Counsel to the effect that such payment is not required under Section 148 of the Code in order to prevent the Bonds from becoming "arbitrage bonds."

ARTICLE III REDEMPTION OF BONDS

Section 3.1 Redemption of Bonds. (a) The Bonds issued under the provisions of this Series Resolution shall not be subject to prior redemption except as provided in this Article III and as set forth in the form of the Bonds contained in Exhibit A. Subject to applicable procedures of the Securities Depository while the Bonds are held in book-entry only form by the Securities Depository, and except as otherwise provided in the case of extraordinary redemption of the Bonds in accordance with subsection (c) below, if less than all of the Bonds shall be called for redemption, the Bonds to be redeemed shall be selected by the University in such manner as the University in its discretion may determine.

- (b) The Bonds shall be subject to optional and mandatory redemption as set forth in the form of the Bonds contained in Exhibit A. The Bonds that may be subject to optional redemption, the redemption premiums, if any, due upon an optional redemption and the mandatory sinking fund redemption schedule, if any, shall be as approved by the Chief Financial Officer or the University Treasurer prior to the issuance of the Bonds. The execution of the Bonds by the University's President and by the Chief Financial Officer or the University Treasurer shall be conclusive evidence of his approval of such matters.
- (c) The Bonds shall also be subject to redemption in whole or in part on any date, at the option of the University, from the proceeds of casualty insurance or condemnation awards, at a redemption price equal to 100% of the principal amount thereof to be redeemed, without premium, plus accrued interest to the redemption date, if all or any part of the Project financed with the Bonds is damaged or destroyed or taken through the exercise of the power of eminent domain and an Authorized Officer has delivered a certificate to the Custodian to the effect that the University has determined not to use such proceeds to replace or rebuild the damaged, destroyed or taken property. In the event of a redemption in part pursuant to this paragraph, the University shall redeem the Bonds from each maturity then outstanding, to the extent practicable, in the proportion that the principal amount of the Bonds of such maturity bears to the total principal amount of the Bonds then outstanding.
- (d) At its option, to be exercised on or before the fortieth day next preceding any applicable sinking fund redemption date, the University may receive a credit against its mandatory sinking fund redemption obligation for the Bonds which prior to such date have been purchased by the University and presented to the Paying Agent for cancellation or redeemed (otherwise than through the operation of the sinking fund) and canceled by the Paying Agent and, in either case, not theretofore applied as a credit against any sinking fund redemption obligation.

Each Bond so purchased, delivered or previously redeemed shall be credited by the Paying Agent at 100% of the principal amount thereof against the obligation of the University on such sinking fund redemption date to redeem Bonds. Any excess over such obligation shall be credited against applicable future sinking fund redemption obligations, or deposits with respect thereto, in such order of maturity as shall be determined by the University, and the principal amount of such Bonds to be redeemed by operation of the sinking fund shall be accordingly reduced.

Section 3.2 Notice of Redemption. (a) Whenever Bonds are to be redeemed under the provisions of the Resolution, the Paying Agent shall, not less than 30 nor more than 60 days prior to the redemption date, mail notice of redemption to all registered owners of all Bonds to be redeemed at their registered addresses. The Paying Agent shall also mail a copy of any such notice of redemption to any Rating Agency. Any such notice of redemption shall be given in the name of the University, shall identify the Bonds to be redeemed, shall specify the redemption date and the redemption price, and shall state that on the redemption date the Bonds called for redemption will be payable at the office of the Paying Agent and that from that date interest will cease to accrue. The Paying Agent may use "CUSIP" numbers in notices of redemption as a convenience to Bondholders, provided that any such notice shall state that no representation is

made as to the correctness of such numbers either as printed on the Bonds or as contained in any notice of redemption.

If at the time of mailing of notice of any optional redemption the University shall not have caused to be deposited with the Paying Agent moneys sufficient to redeem all the Bonds called for redemption, such notice may state that it is conditional in that it is subject to the deposit of the redemption moneys with the Paying Agent not later than the redemption date, and such notice shall be of no effect unless such moneys are so deposited. Failure by the Paying Agent to give any notice of redemption or any defect in such notice as to any particular Bonds shall not affect the validity of the call for redemption of any Bonds in respect of which no such failure or defect has occurred. Any notice mailed as provided in this Series Resolution shall be conclusively presumed to have been given whether or not actually received by any holder.

ARTICLE IV GENERAL REVENUE PLEDGE; RELATED COVENANTS

- **Section 4.1** Pledge of Pledged General Revenues. In addition to the pledge of Revenues securing the Bonds, the University hereby pledges its Pledged General Revenues to the payment of the principal, interest and premium on the Bonds.
- Section 4.2 <u>Additional Indebtedness and Encumbrances</u>. The University may incur or issue other Credit Obligations payable from or secured by Pledged General Revenues only if the conditions set forth below in subsection (a), (b), (c) or (e) are met in each instance:
- Limitation on Parity Credit Obligations. All other Credit Obligations issued by the University on the date of issuance of the Bonds shall be Parity Credit Obligations insofar as Pledged General Revenues are concerned. The University may incur, assume, guarantee or otherwise become liable on any other Parity Credit Obligation, but only if, prior to the incurrence of each such Parity Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Parity Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Pledged General Revenue Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such Parity Credit Obligation and (B) the completion of any facility financed with the proceeds of such Parity Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Parity Credit Obligation, and (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of the Resolution. Any such Parity Credit Obligation shall be designated by the University as a Parity Credit Obligation and shall be secured by a pledge of Pledged General Revenues on a parity with the pledge of Pledged General Revenues herein, unless expressly subordinated to the pledge hereof.
- (b) <u>Limitation on Section 9(c) Credit Obligations</u>. The University may incur, assume, guarantee or otherwise become liable on any Credit Obligation pursuant to the

provisions of Article X, Section 9(c) of the Constitution of Virginia, as such section may be amended from time to time, and may pledge and apply such portion of the Pledged General Revenues as may be necessary to provide for the payment of any such Credit Obligation, the funding of reasonable reserves therefor, or the payment of operating and other reasonable expenses of the facilities financed in whole or in part with the proceeds of such Credit Obligation or facilities reasonably related to such facilities, but only if, prior to the incurrence of each such Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Pledged General Revenue Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such proposed Credit Obligation and (B) the completion of any facility financed with the proceeds of such proposed Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Credit Obligation, (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of the Resolution, and (3) in connection with the issuance of such proposed Credit Obligation, the University has received an opinion of Bond Counsel to the effect that such proposed Credit Obligation has been validly issued under Article X, Section 9(c) of the Constitution of Virginia. If any such Credit Obligation is designated by the University as a Qualifying Senior Obligation, the pledge of Pledged General Revenues securing such Credit Obligation as described above shall be senior and superior in all respects to the pledge of Pledged General Revenues securing the Bonds, any other Parity Credit Obligations and any Parity Pledged General Revenue Swap Obligations.

Limitation on Other Credit Obligations, Including Section 9(d) Credit Obligations. The University may incur, assume, guarantee or otherwise become liable on any Credit Obligation not described elsewhere in this Section 4.2, including any Credit Obligation incurred pursuant to the provisions of Article X, Section 9(d) of the Constitution of Virginia, as such section may be amended from time to time, and may pledge and apply such portion of the Pledged General Revenues as may be necessary for the payment of any such Credit Obligation, the funding of reasonable reserves therefor, or the payment of operating and other reasonable expenses of the facilities financed in whole or in part with the proceeds of such Credit Obligation or facilities reasonably related to such facilities, but only if, prior to the incurrence of each such Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Pledged General Revenue Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such proposed Credit Obligation and (B) the completion of any facility financed with the proceeds of such proposed Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Credit Obligation, (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of the Resolution, and (3) the

University has received an opinion of Bond Counsel to the effect that such proposed Credit Obligation has been validly issued under the relevant provisions of the Constitution of Virginia. If any such Credit Obligation is designated by the University as a Qualifying Senior Obligation, the pledge of Pledged General Revenues securing such Credit Obligation as described above shall be senior and superior in all respects to the pledge of Pledged General Revenues securing the Bonds, any other Parity Credit Obligations and any Parity Pledged General Revenue Swap Obligations.

- (d) <u>Limitation on Issuance of Indebtedness on a Parity with Qualifying Senior Obligations</u>. Except for Credit Obligations issued pursuant to subsections (b) or (c) above or to refund any Qualifying Senior Obligation as described in subsection (e) below, no additional bonds or other obligations may be issued or incurred by the University on a parity with any Qualifying Senior Obligation.
- (e) <u>Limitation on Issuance of other Credit Obligations or Additional Encumbrances</u>. The University shall not issue Credit Obligations payable from Pledged General Revenues or otherwise encumber the Pledged General Revenues in any manner (except as permitted in connection with Parity Pledged General Revenue Swap Obligations pursuant to Section 4.3 or Credit Obligations issued pursuant to subsections (a), (b) or (c) above or to refund any Qualifying Senior Obligation as described below), unless any such encumbrance is made junior and subordinate in all respects to the liens, pledges, covenants and agreements of this Series Resolution. Notwithstanding anything to the contrary herein, however, the University may issue bonds to refund any Qualifying Senior Obligation and to secure such refunding bonds with the same source of revenues securing the Qualifying Senior Obligation being refunded. Upon the defeasance of the refunded Qualifying Senior Obligation pursuant to any such refunding, the refunding bonds will be considered Qualifying Senior Obligations for all purposes.
- (f) <u>Credit Obligations Payable from System Revenues</u>. The issuance of Credit Obligations payable from Revenues of the System shall be as provided in the Master Resolution.
- **Section 4.3** <u>Interest Rate Agreements</u>. The University may enter into Interest Rate Agreements, the amounts payable by the University under which are on a parity, or are subordinate, as to right to payment from Pledged General Revenues with the Bonds. Each Parity Pledged General Revenue Interest Rate Agreement shall designate which payments thereon, whether regularly scheduled payments, termination payments or other payments, are on a parity with the holders of the Bonds as to the right to payment from Pledged General Revenues.
- Section 4.4 <u>Disposition of Assets</u>. The University may convey, sell or otherwise dispose of any property of the University as long as (1) such conveyance, sale or encumbrance is in the ordinary course of business, or (2) an Authorized Officer certifies in writing that, taking into account the conveyance, sale or other disposition of such property (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Interest Rate Agreements, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after such conveyance, sale or other disposition and (ii)

such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts due under all indebtedness of the University then outstanding.

- Section 4.5 <u>Insurance</u>. The University covenants that it will at all times carry or cause to be carried insurance policies with a responsible insurance company or companies, qualified to assume the risks thereof, or that it will maintain an adequate program of self-insurance, in either case sufficient to provide the University with insurance in such amount and covering such risks as the University shall deem to be reasonable and desirable.
- **Section 4.6** Rights of Bondholders Not to Be Impaired. Except as otherwise set forth in the Resolution, the University covenants that no contract or contracts will be entered into or any action taken which might impair or diminish the rights of the Bondholders.
- **Section 4.7** Further Instruments and Actions. The University covenants that it will, from time to time, execute and deliver such further instruments and take such further action as may be required to carry out the purposes of this Series Resolution.
- **Section 4.8** <u>Accurate Records and Accounts</u>. The University covenants that it will keep accurate records and accounts of all items of cost and of all expenditures relating to Pledged General Revenues collected and the application of such Pledged General Revenues.
- **Section 4.9** Recognized Accounting Principles. The University covenants that all of the accounts and records of the University will be kept according to generally accepted accounting principles consistently applied.

ARTICLE V AMENDMENTS AND SUPPLEMENTS

- **Section 5.1** <u>Amendments to Series Resolution</u>. This Series Resolution may be amended or supplemented in a similar manner and upon similar terms and conditions as the Master Resolution may be amended or supplemented.
- Section 5.2 Amendments to Series Resolution Prior to Delivery of Bonds. On or prior to the delivery of the Bonds, the Chief Financial Officer or the University Treasurer may make such changes to, and complete any blanks in, this Series Resolution as shall be necessary to accurately reflect all negotiations among the University and the Underwriters with respect to the structuring of the financing, including, without limitation, the terms and provisions of the Bonds; provided, however, that no such amendment shall increase the principal amount of the Bonds by greater than 10%. On or prior to the delivery of the Bonds, the Chief Financial Officer or the University Treasurer shall deliver to the Secretary of the Board a copy of this Series Resolution with all of the changes and completions referred to in the preceding sentence (the "Final Resolution"), together with a certificate of the Chief Financial Officer or the University Treasurer to the effect that the resolution so delivered is the Final Resolution. The Secretary shall file such Final Resolution with the minutes of the meeting at which this Series Resolution is adopted. The certificate of the Chief Financial Officer or the University Treasurer referred to above shall be conclusive evidence that any changes made are approved and effective as if such Final Resolution were adopted by the Board.

ARTICLE VI MISCELLANEOUS

- Section 6.1 Approval, Execution and Delivery of Necessary and Appropriate Documents. The Preliminary Official Statement of the University relating to the offering of the Bonds for sale, and the distribution thereof by the Underwriters, are hereby approved, ratified and confirmed. The Chief Financial Officer or the University Treasurer is authorized to "deem final" the Preliminary Official Statement as of its date, within the meaning of Rule 15c2-12 of the Securities and Exchange Commission. The Chief Financial Officer or the University Treasurer is also authorized to negotiate, execute and deliver and deem final, in necessary and appropriate form, the following documents:
- (a) a final Official Statement relating to the offering of the Bonds for sale, in substantially the form presented at the meeting at which this Series Resolution is adopted;
- (b) the Bond Purchase Agreement relating to the purchase of the Bonds, in substantially the form presented at the meeting at which this Series Resolution is adopted, such Bond Purchase Agreement to provide for a true interest cost not to exceed 5.00% per annum;
- (c) the University's Continuing Disclosure Agreement for the benefit of the Bondholders, in substantially the form presented at the meeting at which this Series Resolution is adopted; and
- (d) such other documents and instruments as he deems necessary or appropriate in connection with the issuance of the Bonds, so long as such documents and instruments do not conflict with the intent of this Series Resolution.
- **Section 6.2 Bond Delivery.** All directors, officers and employees of the University are hereby authorized to take all actions necessary to accomplish the delivery of the Bonds to the Underwriters.
- **Section 6.3** Governing Law. This Series Resolution is adopted with the intent that the laws of the Commonwealth shall govern its construction.
- **Section 6.4** Repeal of Inconsistent Provisions. Any prior resolutions or provisions of resolutions of the Board inconsistent with any provisions of this Series Resolution are hereby repealed.
- Section 6.5 <u>Effect of Partial Invalidity</u>. In case any one or more of the provisions of this Series Resolution or of the Bonds issued hereunder shall for any reason be held to be illegal or invalid, such illegality or invalidity shall not affect any other provision of this Series Resolution or of the Bonds, but this Series Resolution and the Bonds shall be construed and enforced as if such illegal or invalid provision had not been contained therein. In case any covenant, stipulation, obligation or agreement contained in the Bonds or in this Series Resolution shall for any reason be held to be in violation of law, then such covenant, stipulation, obligation or agreement shall be deemed to be the covenant, stipulation, obligation or agreement of the University to the full extent permitted by law.

Section 6.6 <u>Effective Date of this Series Resolution</u>. This Series Resolution shall become effective subsequent to its adoption by the Board on the date as determined by an Authorized Officer of the University, any of whom may act, which shall be no earlier than the effective date of the Master Resolution.

Exhibit A

UNITED STATES OF AMERICA COMMONWEALTH OF VIRGINIA

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

ATHLETIC FACILITIES SYSTEM AND GENERAL REVENUE PLEDGE BOND, SERIES 2015B

INTEREST RATE	MATURITY DATE June 1,	DATED DATE October, 2015	CUSIP
REGISTERED OWNER:			
PRINCIPAL AMOUNT.		DOLLARS	2 (\$

Virginia Polytechnic Institute and State University (the "University"), the educational institution at Blacksburg, Virginia, for value received, hereby promises to pay, solely from the funds provided therefor as hereinafter set forth, to the registered owner named above, on the maturity date set forth above (or earlier as hereinafter set forth), upon the presentation and surrender hereof, the principal sum set forth above and to pay, solely from said funds, interest thereon from the date hereof at the rate per annum set forth above, until payment of said principal sum. Both the principal of and the interest on this Bond are payable in any coin or currency of the United States of America which on the respective dates of payment thereof is legal tender for the payment of public and private debts. The principal or redemption price of this Bond shall be payable, upon surrender of this Bond, at the office of The Bank of New York Mellon Trust Company, N.A., Pittsburgh, Pennsylvania, as Paying Agent (the "Paying Agent"), or at the designated corporate trust office of any successor Paying Agent appointed pursuant to the Series Resolution (hereinafter defined). Payment of interest on this Bond shall be made by check or draft mailed on the Interest Payment Date to the registered owner as of the close of business on the 15th day of the month immediately preceding such Interest Payment Date (the "Record Date") at his address as it appears on the registration books of The Bank of New York Mellon Trust Company, N.A., Pittsburgh, Pennsylvania, as Registrar (the "Registrar"), or any successor Registrar appointed pursuant to the Series Resolution. Notwithstanding the foregoing, if and for so long as Cede & Co. or any other nominee of The Depository Trust Company, New York, New York, is registered owner of all of the Bonds, the principal of and premium, if any, on this Bond shall be paid to Cede & Co. or such other nominee as provided under the Series Resolution. The term "Interest Payment Date" means each December 1 and June 1, commencing June 1, 2016 (unless such date is not a Business Day, in which event payment of interest shall be made on the next succeeding Business Day).

This Bond shall bear interest from the Interest Payment Date next preceding the date on which it is authenticated, unless this Bond is (a) authenticated before the first Interest Payment Date following the initial delivery of the Bonds, in which case it shall bear interest from its dated

date or (b) authenticated upon an Interest Payment Date, in which case it shall bear interest from such Interest Payment Date; provided, however, that if at the time of authentication of this Bond interest is in default, this Bond shall bear interest from the date to which interest has been paid. Interest on this Bond shall be computed on the basis of a 360-day year of twelve 30-day months.

The University shall not be obligated to pay the principal of or interest on this Bond except from the Pledged General Revenues and the Net Revenues of the University's Athletic Facilities System and other legally available moneys, all as provided in the Resolution hereinafter referred to. This Bond and the interest hereon shall not be deemed to constitute a debt or liability of the Commonwealth of Virginia, legal, moral or otherwise. Neither the Commonwealth of Virginia nor the University shall be obligated to pay the principal of or interest on this Bond or other costs incident thereto except from the sources noted above, and neither the faith and credit nor the taxing power of the Commonwealth of Virginia nor any other revenues or funds of the University are pledged to the payment of the principal of or interest on this Bond or other costs incident thereto.

This Bond is one of a duly authorized issue of Bonds of the University aggregating in principal amount, known as "Athletic Facilities System and General Revenue Pledge Bonds, Series 2015B" (the "Bonds"), issued under and pursuant to a resolution adopted by the Board of Visitors of the University (the "Board") on August 31, 2015 (the "Master Resolution"), as supplemented by a Series Resolution adopted by the Board on August 31, 2015 (the "Series Resolution") (said Master Resolution, as supplemented, being herein called the "Resolution"). This Bond is issued and the Resolution was adopted under and pursuant to the Constitution and laws of the Commonwealth of Virginia, particularly Chapter 4.10, Title 23, Code of Virginia of 1950, as amended (herein called the "Act") to finance the costs of an athletic field house facility at the University (the "Project"). Reference is hereby made to the Resolution for the provisions, among others, with respect to the custody and application of the proceeds of Bonds issued under the Resolution, the collection and disposition of revenues, the funds charged with and pledged to the payment of the interest on and the principal of the Bonds, the nature and extent of the security, the terms and conditions on which the Bonds are or may be issued, the rights, duties and obligations of the University and the rights of the holders of the Bonds. Capitalized terms not defined herein shall be as defined in the Resolution. By the acceptance of this Bond, the holder hereof assents to all of the provisions of the Resolution.

The Resolution provides for the issuance from time to time, under the conditions, limitations and restrictions set forth therein, of additional series of bonds on a parity with the Bonds.

The Bonds maturing on or after June 1, 20_ are subject to optional redemption by the University on or after June 1, 20_ in whole or in part at any time (in any integral multiple of \$5,000) at the redemption prices (expressed as percentages of principal amount of Bonds to be redeemed) set forth below plus accrued interest to the redemption date:

Redemption Period		<u>Price</u>	
June 1, 20_	_ through May 31, 20	%	
June 1, 20	through May 31, 20		

June 1, 20__ and thereafter

The Bonds maturing on June 1, 20__ are subject to mandatory sinking fund redemption prior to maturity, on each June 1 of the following years in the following principal amounts at a redemption price equal to 100% of the principal amount thereof, plus accrued interest to the redemption date:

<u>Year</u>	Amount
20	\$
20	
20	
20	
20	
20	
20 (Final Maturity)	

The Bonds are also subject to redemption in whole or in part on any date, at the option of the University, from the proceeds of casualty insurance or condemnation awards, at a redemption price equal to 100% of the principal amount thereof to be redeemed, without premium, plus accrued interest to the redemption date, if all or any part of the Project is damaged, destroyed or taken through the exercise of the power of eminent domain and the University has determined not to use such proceeds to replace or rebuild the damaged, destroyed or taken property. In the event of a redemption in part pursuant to this paragraph, the University shall redeem the Bonds from each maturity then outstanding, to the extent practicable, in the proportion that the principal amount of the Bonds of such maturity bears to the total principal amount of the Bonds then outstanding.

Subject to applicable procedures of the Securities Depository while the Bonds are held in book-entry only form by the Securities Depository, and except as otherwise provided in the case of extraordinary redemption of the Bonds in accordance with the preceding paragraph, if less than all of the Bonds are to be redeemed, the Bonds (or portions of Bonds) to be redeemed shall be selected by the University in such manner as the University in its discretion may determine.

This Bond is transferable by the registered owner, in person or by its attorney duly authorized in writing, at the designated office of the Registrar, upon presentation of a written instrument of transfer and surrender of this Bond to the Registrar for cancellation. Upon the transfer, a new Bond or Bonds of the same aggregate principal amount, maturity date and interest rate will be issued to the transferee. No transfer will be effective unless represented by such surrender and reissue. This Bond may also be exchanged at the designated office of the Registrar for a new Bond or Bonds of the same aggregate principal amount, maturity date and interest rate without transfer to a new registered owner. Exchanges and transfers will be without expense to the holder except for applicable taxes or other governmental charges, if any. The Registrar shall not be required to transfer or exchange any Bond selected or called for redemption pursuant to the provisions hereof or from a Record Date through the next succeeding Interest Payment Date. All Bonds delivered in exchange or transfer shall be dated so that neither gain nor loss results from the transfer or exchange.

The University, the Paying Agent and the Registrar may treat the registered owner as the absolute owner of this Bond for all purposes, notwithstanding any notice to the contrary.

Neither the members of the Board nor any person executing this Bond are liable personally hereon or subject to any personal liability or accountability by reason of the issuance hereof.

This Bond will not be valid until the Certificate of Authentication has been signed by the Registrar.

The holder of this Bond shall have no right to enforce the provisions of the Resolution or to institute action to enforce the covenants therein, or to take any action with respect to any Event of Default under the Resolution, or to institute, appear in or defend any suit or other proceeding with respect thereto, except as provided in the Resolution.

All acts, conditions and things required by the Constitution and laws of the Commonwealth of Virginia and by the rules and regulations of the Board to happen, exist and be performed precedent to and in the issuance of this Bond have happened, exist and have been performed as so required.

IN WITNESS WHEREOF, Virginia Polytechnic Institute and State University has caused this Bond to be issued in its name and caused this Bond to bear the manual or facsimile signatures of its President and the University's Chief Financial Officer or the University's Treasurer and its official seal to be impressed or imprinted hereon, all as of the dated date hereof.

[SEAL]

[Chief Financial Officer] [Treasurer] of Virginia Polytechnic Institute and State University

President of Virginia Polytechnic Institute and State University

CERTIFICATE OF AUTHENTICATION

This Bond is one of the Bonds described in the within-mentioned Series Resolution.

Date of Authentication:	
, 2015	
	THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., as Registrar
	Authorized Signatory

FORM OF ASSIGNMENT

FOR VALUE RECEIV	TED the undersigned hereby sells, assigns and transfers
(Please print or typewrite name and ad	Idress, including zip code, of Transferee)
	ISERT SOCIAL SECURITY OR YING NUMBERS OF TRANSFEREE
transfer the within Bond on the b	eunder, and hereby irrevocably constitutes and appoints attorney to books kept for registration thereof, with full power of
substitution in the premises. Dated:	
	Registered Owner
	The signature above must correspond to the name of the Registered Owner as it appears on the front of this Bond in every particular, without alteration or enlargement or any change whatsoever.
	Signature Guaranteed
	Notice: Signature(s) must be guaranteed by an approved eligible guarantor institution – an institution which is a participant in a Securities Transfer Association recognized signature guarantee program.

A-6

#26187670v6 206702.024

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

BOND RESOLUTION

AUTHORIZING AND SECURING
GENERAL REVENUE PLEDGE REFUNDING BONDS
SERIES 2015E

ADOPTED ON AUGUST 31, 2015

BOND RESOLUTION

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Exhibit A - Form of the Bonds

A RESOLUTION AUTHORIZING THE ISSUANCE OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY GENERAL REVENUE PLEDGE REFUNDING BONDS, SERIES 2015E; PLEDGING TO THE PAYMENT OF THE PRINCIPAL OF AND THE INTEREST ON SUCH BONDS CERTAIN GENERAL REVENUES OF THE UNIVERSITY AS PROVIDED HEREIN; AND SETTING FORTH THE RIGHTS AND REMEDIES OF THE HOLDERS OF SUCH BONDS.

#### RECITALS

- A. By Chapter 11, Title 23 of the Code of Virginia of 1950, as amended ("Title 23"), there is created a corporation under the name and style of the Virginia Polytechnic Institute and State University (the "University"), which is governed by a Board of Visitors (the "Board"), which is vested with the supervision, management and control of the University.
- B. Pursuant to Title 23, the University is classified as an educational institution, is declared to be a public body and is constituted a governmental instrumentality for the dissemination of education.
- C. By Chapter 4.10 of Title 23 (the "Act"), the University entered into a management agreement with the Commonwealth of Virginia which was enacted as Chapter 1 of Chapter 943 of the 2006 Virginia Acts of Assembly, as amended, whereby the University is classified as a public institution of higher education and the University is granted the authority pursuant to Section 23-38.108 of the Act to issue and sell bonds of the University consistent with debt capacity and management policies and guidelines established by its Board (1) for any purpose that is consistent with its institutional mission, including to finance or refinance any project and (2) without obtaining the consent of any legislative body, elected official, commission, board, bureau or agency of the Commonwealth or of any political subdivision, and without being subject to any review or approval procedure, rules, regulations or procedures adopted pursuant to Chapter 3 (§ 23-14 et seq.) of Title 23.
- D. For the purpose of providing funds to finance a portion of the cost of constructing and equipping improvements to the University's College of Veterinary Medicine, the University issued its General Revenue Pledge Bonds, Series 1992 (the "Series 1992 Bonds") pursuant to a resolution adopted by the Board on August 24, 1992.
- E. For the purpose of providing funds to finance a portion of the cost of constructing and equipping an education center in Falls Church, Virginia, the University issued its General Revenue Pledge Bonds, Series 1995A (the "Series 1995 Bonds") pursuant to a resolution adopted by the Board on November 9, 1994.
- F. For the purpose of providing funds to finance a portion of the cost of (i) refunding the Series 1992 Bonds, (ii) refunding the Series 1995 Bonds, (iii) constructing and equipping a new architecture and engineering facility at the University, (iv) constructing and equipping improvements to the University's coal-fired power plant, (v) renovating the University's Continuing Education Center and Alumni Hall, and (vi) constructing improvements and additions to various athletic facilities at the University, the University issued its General Revenue

Pledge Bonds, Series 1996A (the "Series 1996 Bonds") pursuant to a resolution adopted by the Board on August 26, 1996.

- G. For the purpose of providing funds to finance the cost of refunding the Series 1996 Bonds that financed the costs described in clauses (i), (iii), (iv) and (v) of paragraph F above, the University issued its General Revenue Pledge Refunding Bonds, Series 2004A (the "Series 2004 Bonds"), pursuant a resolution adopted by the Board on March 29, 2004.
- H. For the purpose of providing funds to finance the cost of refunding the Series 2004 Bonds, the Board has determined to adopt this resolution authorizing the issuance of general revenue pledge refunding bonds of the University.

# NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF VISITORS OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY:

### ARTICLE I DEFINITIONS

**Section 1.1** <u>Definitions</u>. In addition to words and terms elsewhere defined in this Bond Resolution, the following words and terms as used in this Bond Resolution shall have the following meanings, unless some other meaning is plainly intended:

"Act" means Chapter 4.10, Title 23 of the Code of Virginia of 1950, as amended.

"Authorized Officer" means (i) in the case of the University, the President of the University, the Chief Financial Officer or the University Treasurer and, when used with reference to any act or document also means any other person authorized by appropriate action of the Board to perform such act or execute such document on behalf of the University; and (ii) in the case of the Paying Agent or the Custodian (if not the State Treasurer), the President, any Vice-President, any Assistant Vice-President, any Corporate Trust Officer or any Assistant Corporate Trust Officer of the Paying Agent or the Custodian, and when used with reference to any act or document also means any other person authorized to perform such act or execute such document by or pursuant to a resolution of the governing body of the Paying Agent or the Custodian.

"Board" means the Board of Visitors of the University or, if such Board is abolished, the board or body succeeding to the principal functions thereof.

"Bond Counsel" means any firm of attorneys selected by the University and experienced in the issuance of municipal bonds and matters relating to the exclusion of the interest thereon from gross income for federal income tax purposes, which may be an attorney or firm regularly providing services to the University, the Paying Agent, the Underwriters or any Bondholder.

"Bond Purchase Agreement" means the Bond Purchase Agreement, dated as of the date of its execution and delivery, between the University and the Underwriters.

"Bondholder" or "Holder" means the registered owner of any Bond.

"Bond Resolution" means this Bond Resolution, together with all supplements and amendments hereto.

"Bonds" means the University's General Revenue Pledge Refunding Bonds, Series 2015E, issued pursuant to this Bond Resolution.

"Business Day" means a day other than (i) a Saturday, Sunday or other day on which banking institutions in the Commonwealth of Virginia or the city in which the Designated Office of the Paying Agent is located are authorized or required by law to close or (ii) a day on which the New York Stock Exchange is closed.

"Chief Financial Officer" means the University's chief financial officer, or such other officer of the University having similar duties as may be selected by the Board.

"Code" means the Internal Revenue Code of 1986, as amended. Each citation to a Code section shall include the applicable temporary and permanent regulations (and including only such proposed regulations which have proposed effective dates prior to the date the applicable opinion or determination is to be made), revenue rulings and revenue procedures.

"Commonwealth" means the Commonwealth of Virginia.

"Credit Obligation" of the University means any indebtedness incurred or assumed by the University for borrowed money and any other financing obligation of the University that, in accordance with generally accepted accounting principles consistently applied, is shown on the liability side of a balance sheet; provided, however, that Credit Obligation shall not include any portion of any capitalized lease payment directly appropriated from general funds of the Commonwealth or reasonably expected to be so appropriated as certified by the Chief Financial Officer or the University Treasurer, but only to the extent such appropriation is restricted by the Commonwealth to the payment of such capitalized lease obligation. Credit Obligation shall not include any Interest Rate Agreement.

"Custodian" means The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and its successors, or such other bank or financial institution designated by the University to hold funds under this Resolution.

"Debt Service Fund" means the Virginia Polytechnic Institute and State University General Revenue Pledge Refunding Bonds, Series 2015E, Debt Service Fund, a special fund created and designated by Section 5.1.

"Designated Office" means, when used in reference to the Paying Agent, the corporate trust office of the Paying Agent designated as such, which shall initially be 525 William Penn Place, 38th Floor, Pittsburgh, Pennsylvania 15259.

"DTC" means The Depository Trust Company and any successor company.

"Fiscal Year" means the period commencing on the first day of July in any year and ending on the last day of June of the following year.

"Fitch" means Fitch Ratings, a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "Fitch" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

### "Government Obligations" means:

- (a) Certificates or interest-bearing notes or obligations of the United States, or those for which the full faith and credit of the United States are pledged for the payment of principal and interest, and
- (b) Investments in any of the following obligations provided such obligations are backed by the full faith and credit of the United States (i) debentures of the Federal Housing Administration, (ii) certificates of beneficial interest of the Farmers Home Administration or (iii) project notes and local authority bonds of the Department of Housing and Urban Development.

"Hedge Provider" shall mean the counterparty to any Interest Rate Agreement to which the University is a party.

"Interest Rate Agreement" shall mean an interest rate exchange, hedge or similar agreement, expressly identified in a certificate of an Authorized Officer of the University, executed at the settlement date therefor or effective date thereof and kept with the University's executed copy of the agreement, as being or as having been entered into in order to hedge the interest payable on all or a portion of any Credit Obligation, which agreement may include, without limitation, an interest rate swap, a forward or futures contract or an option (e.g. a call, put, cap, floor or collar) and which agreement does not constitute an obligation to repay money borrowed, credit extended or the equivalent thereof. An Interest Rate Agreement does not constitute a Credit Obligation hereunder.

"Interest Payment Dates" means the dates interest is due on the Bonds as described in Section 2.2.

"Moody's" means Moody's Investors Service, Inc., a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "Moody's" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

"Parity Credit Obligation" means any Credit Obligation of the University which may be incurred in accordance with the terms of this Bond Resolution or has been incurred that is secured on a parity with the pledge of Pledged General Revenues herein, including, without limitation, all other bonds being issued by the University on the date of the initial issuance of the Bonds.

"Parity Interest Rate Agreement" shall mean any Interest Rate Agreement, any portion of the payments by the University under which is on a parity as to right to payment from Pledged General Revenues, and is equally and ratably secured by a pledge of such Pledged General Revenues, with the holders of the Bonds.

"Parity Swap Obligations" shall mean the amounts payable by the University to the Hedge Provider pursuant to a Parity Interest Rate Agreement that, as specified in the Parity Interest Rate Agreement, are on a parity as to right to payment from Pledged General Revenues, and are equally and ratably secured by a pledge of such Pledged General Revenues, with the holders of the Bonds.

"Paying Agent" means initially The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and its successors and any other corporation that may at any time be substituted in its place in accordance with Section 11.2 of this Bond Resolution.

"Pledged General Revenues" means any or all of the revenues now or hereafter available to the University which are not required by law, by binding contract entered into prior to the date of this Bond Resolution or by the provisions of any Qualifying Senior Obligation to be devoted to some other purpose, and shall include, without limitation, all revenues pledged to the payment of any Qualifying Senior Obligation net of amounts necessary to pay it or any operating or other expenses, the payment of which is required or permitted to be made with such revenues prior to the payment of such Qualifying Senior Obligation.

"Project" or "Projects" means collectively the capital improvements to the University's educational facilities that were refinanced with proceeds of the Series 2004 Bonds, as more fully described in the Recitals to this Bond Resolution.

"Qualifying Senior Obligation" means any existing Credit Obligation other than a Parity Credit Obligation secured by a pledge of any portion of the Pledged General Revenues, and any additional Credit Obligation issued pursuant to Section 6.3(b) or 6.3(c) or to refund any Qualifying Senior Obligation as described in Section 6.3(e).

"Rating Agency" means Moody's, S&P and/or Fitch, if any or all of such rating agencies have provided a rating for the Bonds. If any such corporation ceases to act as a securities rating agency, the University may appoint any nationally recognized securities rating agency as a replacement.

"Record Date" means the  $15^{th}$  day of the month preceding each Interest Payment Date, whether or not such  $15^{th}$  day is a Business Day.

"Registrar" means initially The Bank of New York Mellon Trust Company, N.A., a national banking association organized under the laws of the United States of America, and any successor Registrar appointed pursuant to Section 11.2.

"Securities Depository" means The Depository Trust Company, a limited purpose trust corporation organized and existing under the laws of the State of New York, and any other securities depository for the Bonds appointed pursuant to Section 2.11.

"State Treasurer" means the State Treasurer of the Commonwealth.

"S&P" means Standard & Poor's, a Division of The McGraw-Hill Companies, a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such division shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term "S&P" shall be deemed to refer to any other nationally recognized securities rating agency selected by the University.

"Underwriters" mean a group of underwriters managed or co-managed by Merrill Lynch, Pierce, Fenner & Smith Incorporated, Davenport & Company LLC, Morgan Stanley & Co. LLC and Wells Fargo Bank, National Association.

"University" means the Virginia Polytechnic Institute and State University, an educational institution and a public body and governmental instrumentality for the dissemination of education, and its successor or successors.

Section 1.2 <u>Rules of Construction/Use of Words and Phrases</u>. Words of the masculine gender shall be deemed and construed to include correlative words of the feminine and neuter genders. Unless the context shall otherwise indicate, the word "person" shall include corporations and associations, including public bodies, as well as natural persons. Singular words shall connote the plural number as well as the singular and vice versa.

All references in this Bond Resolution to particular Articles or Sections are references to Articles or Sections of this Bond Resolution unless otherwise indicated.

The headings and table of contents as used in this Bond Resolution are solely for convenience of reference and shall not constitute a part of this Bond Resolution nor shall they affect its meaning, construction or effect.

# ARTICLE II AUTHORIZATION, FORM, EXECUTION, DELIVERY, REGISTRATION AND PAYMENT OF THE BONDS

**Section 2.1** <u>Authorization of the Bonds</u>. For the purpose of providing funds, together with other available funds, to refund the Series 2004 Bonds, there shall be issued, under the authority of the Act, Bonds of the University in the aggregate principal amount of \$2,850,000. The Bonds shall be designated "Virginia Polytechnic Institute and State University General Revenue Pledge Refunding Bonds, Series 2015E."

Section 2.2 <u>Details of the Bonds</u>. The Bonds authorized in Section 2.1 shall be issued initially in book-entry form only in denominations of \$5,000 or any multiple thereof, shall be dated the date of their delivery, shall be numbered from R-1 upward, and shall mature on June 1 in each of the years, in the amounts and shall bear interest, payable on June 1, 2016, and semi-annually thereafter on June 1 and December 1 in each year (each an "Interest Payment Date"), at the rates set forth in the Bond Purchase Agreement relating to the purchase of the Bonds, as approved, executed and delivered pursuant to Section 11.7, and in the Bonds executed in accordance with Section 2.4 and delivered in accordance with such Bond Purchase Agreement. The execution of the Bonds by the University's President and by the Chief Financial Officer or

the University Treasurer shall be conclusive evidence of his approval of the maturity schedule and the interest rate or rates payable on the Bonds.

All the Bonds shall bear interest (a) from their dated date, if authenticated prior to June 1, 2016, or (b) otherwise from the June 1 or December 1 that is, or that immediately precedes, the date on which such Bond is authenticated (unless payment of interest is in default, in which case such Bond shall bear interest from the date of which interest has been paid).

Both principal of and interest on the Bonds shall be payable in lawful money of the United States of America, but only from the revenues lawfully available therefor pursuant to the Act and pledged to the payment thereof as hereinafter provided. Principal of the Bonds shall be payable upon presentation and surrender of the Bonds as they become due at the designated office of the Paying Agent. Interest on the Bonds shall be payable to the registered owners of the Bonds by check or draft mailed on the applicable Interest Payment Date to such owners at their addresses as they appear on the Record Date on registration books kept by the Registrar, or upon the written request of any Holder of at least \$1,000,000 in aggregate principal amount of Bonds by wire transfer in immediately available funds to an account within the United States designated by such Holder at least three business days before the Record Date for the applicable Interest Payment Date.

Nothing herein shall be construed as prohibiting the University from issuing any maturity of the Bonds as one fully registered bond for the purpose of qualifying such Bonds for book entry registration by a Securities Depository or any similar arrangement whereby investors may hold a participation interest in such maturity of the Bonds.

**Section 2.3** Form of the Bonds. The Bonds shall be substantially in the form set forth in Exhibit A, with such appropriate variations, omissions and insertions as permitted or required by this Bond Resolution.

**Section 2.4** Execution of the Bonds. The Bonds shall be executed in the name and on behalf of the University by its President and by the Chief Financial Officer or the University Treasurer and the official seal of the University shall be impressed, imprinted, reproduced or lithographed on the Bonds. The signatures on the Bonds may be by facsimile. In case any of the officers who shall have signed or attested any of the Bonds shall cease to be such officer or officers of the University before the Bonds so signed or attested shall have been issued by the University, such Bonds may nevertheless be delivered and issued and, upon such delivery and issue, shall be as binding upon the University as though those who signed and attested the same had continued to be such officers of the University. Any Bonds may be signed and attested on behalf of the University by such persons as at the actual date of execution of such Bonds shall be the proper officers of the University although at the nominal date of such Bonds any such person shall not have been such officer of the University.

Only such of the Bonds as shall bear thereon a certificate of authentication, manually executed by the Registrar, shall be valid or obligatory for any purpose or entitled to the benefits of this Bond Resolution, and such certificate of the Registrar shall be conclusive evidence that the Bonds so authenticated have been duly executed, authenticated and delivered hereunder and are entitled to the benefits of this Bond Resolution.

Section 2.5 <u>Transfer of the Bonds</u>. Any Bonds may, in accordance with its terms, be transferred, upon the books required to be kept pursuant to the provisions of Section 2.7, by the person in whose name it is registered, in person or by his duly authorized attorney, upon surrender of such Bonds for cancellation, accompanied by delivery of a written instrument of transfer, duly executed in a form approved by the Registrar. The Registrar shall not be required to transfer or exchange any Bond selected or called for redemption pursuant to the provisions therein or from a Record Date through the next succeeding Interest Payment Date.

Whenever any Bonds shall be surrendered for registration of transfer, the University shall execute and the Registrar shall authenticate and deliver a new Bonds, of authorized denominations of the same maturity and interest rate and for a like aggregate principal amount. Such transfer shall be without charge to the Bondholder, except that the Registrar shall require the Bondholder requesting such transfer to pay any tax or other governmental charge required to be paid with respect to such transfer.

Section 2.6 Exchange of the Bonds. The Bonds may be exchanged at the office of the Registrar for a like aggregate principal amount of the Bonds of other authorized denominations of the same maturity and interest rate. Such exchange shall be without charge to the Bondholder, except that the Registrar shall require the Bondholder requesting such exchange to pay any tax or other governmental charge required to be paid with respect to such exchange.

Section 2.7 <u>Bond Register; Notices; Persons Treated as Owners</u>. The Registrar will keep or cause to be kept, sufficient books for the registration and transfer of the Bonds, which shall at all times during regular business hours upon reasonable prior written notice be open to inspection by the University; and, upon presentation for such purpose, the Registrar shall, under such reasonable regulations as it may prescribe, register or cause to be registered, on such books, the transfer or exchange of the Bonds as hereinbefore provided. Notices sent to Bondholders pursuant to this Bond Resolution shall be sent to the addresses shown on the registration books maintained by the Registrar or such other address as may be filed with the Registrar for such purpose. All notices required to be given by mail shall be given by first class mail, postage prepaid.

In addition to the other obligations imposed on the Registrar hereunder, the Registrar shall agree to deliver upon request a list of the names and addresses of the registered owners of the Bonds, as follows:

- (i) to any Bondholder, if an Event of Default (as hereinafter defined) shall have occurred and be continuing; and
- (ii) to the Holders of 25% or more in aggregate principal amount of the Bonds then outstanding, at any time.

Prior to due presentment for registration of transfer of any Bond, the Registrar shall treat the registered owner as the person exclusively entitled to payment of principal and interest and the exercise of all other rights and powers of the owner, except that interest payments shall be made to the person registered as owner on the registration books of the Registrar as of the Record Date.

Section 2.8 Temporary Bonds. The Bonds may be issued in temporary form exchangeable for definitive Bonds when ready for delivery. Any temporary Bond may be printed, lithographed or typewritten, shall be of such denomination as may be determined by the University and may contain such reference to any of the provisions of this Bond Resolution as may be appropriate. A temporary Bond may be in the form of a single Bond payable in installments, each on the date, in the amount and at the rate of interest established for the Bonds maturing on such date. Every temporary Bond shall be executed by the University and be authenticated by the Registrar upon the same conditions and in substantially the same manner as the definitive Bonds. If the University issues temporary Bonds it will execute and deliver definitive Bonds as promptly thereafter as practicable, and thereupon the temporary Bonds may be surrendered, for cancellation, in exchange therefor at the designated office of the Registrar and the Registrar shall authenticate and deliver in exchange for such temporary Bonds an equal aggregate principal amount of definitive Bonds of authorized denominations of the same maturity or maturities and interest rate. Until so exchanged, the temporary Bonds shall be entitled to the same benefits under this Bond Resolution as definitive Bonds authenticated and delivered hereunder.

Bonds Mutilated, Lost, Destroyed or Stolen. If any Bond shall become Section 2.9 mutilated, the University, at the expense of the Bondholder of such Bond, shall execute, and the Registrar shall thereupon authenticate and deliver, a new Bond of like tenor bearing a different number in exchange and substitution for the Bond so mutilated, but only upon surrender to the Registrar of the Bond so mutilated. Every mutilated Bond so surrendered to the Registrar shall be canceled by it and shall be delivered to, or upon the order of, the University. If any Bond shall be lost, destroyed or stolen, evidence of the ownership thereof and of such loss, destruction or theft may be submitted to the University and the Registrar, and, if such evidence be satisfactory to both of them and indemnity satisfactory to them shall be given, the University, at the expense of the Bondholder, shall execute, and the Registrar shall thereupon authenticate and deliver, a new Bond of like tenor bearing a different number in lieu of and in substitution for the Bond so lost, destroyed or stolen (or if any such Bond shall have matured or shall be about to mature, instead of issuing a substitute Bond, the Paying Agent may pay the same without surrender thereof). The University may require payment of a sum not exceeding the actual cost of preparing each new Bond issued under this Section and of the related expenses which may be incurred by the University, the Registrar, and the Paying Agent. Any Bond issued under the provisions of this Section in lieu of any Bond alleged to be lost, destroyed or stolen shall constitute an original additional contractual obligation on the part of the University whether or not the Bond so alleged to be lost, destroyed or stolen be at any time enforceable by anyone, and shall be entitled to the benefits of this Bond Resolution with all other Bonds secured by this Bond Resolution.

Section 2.10 <u>Terms and Conditions for Issuance and Delivery of the Bonds</u>. The Bonds authorized by this Bond Resolution shall be executed in the form and manner hereinabove set forth and shall be deposited with the Registrar for delivery to the Underwriters pursuant to the Bond Purchase Agreement, but before the Bonds shall be delivered by the Registrar, there shall be filed with the Registrar the following:

(a) a copy, certified by the Secretary of the Board, of this Bond Resolution;

(b) an opinion of Bond Counsel stating that the Bonds have been duly authorized, executed and delivered in accordance with the Act and this Resolution and constitute valid and binding limited obligations of the University, payable solely from the Pledged General Revenues and other property pledged therefor under this Resolution.

When the documents mentioned above in this Section shall have been filed with the Registrar and when the Bonds shall have been executed as required by this Bond Resolution, the Registrar shall deliver such Bonds to or upon the order of the Underwriters pursuant to the Bond Purchase Agreement, but only upon payment to the Custodian of the purchase price of such Bonds. The Registrar shall be entitled to rely upon such Bond Purchase Agreement as to the names of the purchasers and the amount of such purchase price.

The proceeds of such Bonds shall be deposited by the Custodian as described in Section 4.1.

- **Section 2.11** <u>Book Entry Provisions</u>. The provisions of this Section 2.11 shall apply to the Bonds so long as all of the Bonds shall be maintained in book-entry form with a Securities Depository, any other provisions of this Bond Resolution to the contrary notwithstanding.
- (a) The principal or redemption price of and interest on the Bonds shall be payable to the Securities Depository, or registered assigns, as the registered owner of the Bonds, in same day funds on each date on which the principal of or interest on the Bonds is due as set forth in this Bond Resolution and in the Bonds. Such payments shall be made to the offices of the Securities Depository specified by the Securities Depository to the University and Paying Agent in writing. Without notice to or the consent of the beneficial owners of the Bonds, the University and the Securities Depository may agree in writing to make payments of principal and interest in a manner different from that set out herein. If such different manner of payment is agreed upon, the University shall give the Paying Agent written notice thereof, and the Paying Agent shall make payments as if set forth herein. Neither the University nor the Paying Agent shall have any obligation with respect to the transfer or crediting of the appropriate principal and interest payments to participants of the Securities Depository or the beneficial owners of the Bonds or their nominees.
- (b) The Paying Agent at the written direction of the University may replace any Securities Depository as the depository for the Bonds with another qualified securities depository or discontinue the maintenance of the Bonds in book-entry form at any time if the University determines to do so. Notice of any determination above shall be given to such Securities Depository at least 30 days prior to any such discontinuation (or such fewer number of days as shall be acceptable to such Securities Depository). The University may undertake to locate a qualified replacement Securities Depository and/or may discontinue the book-entry system of evidencing ownership of the Bonds.
- (c) If the University discontinues the maintenance of the Bonds in book-entry form, the University will issue replacement Bonds directly to the participants in the former Securities Depository or, to the extent requested by any such participant, to the beneficial owners of the Bonds as further described in this Section. At the written direction of the University, the Paying Agent shall notify participants and the beneficial owners of the Bonds, by mailing an appropriate

notice to the Securities Depository, or by other means deemed appropriate by either the Securities Depository or the Paying Agent, that the University will issue replacement Bonds directly to the participants shown on the records of the Securities Depository or, to the extent requested by any participant, to beneficial owners of the Bonds shown on the records of such participant, as of a date set forth in such notice, which shall be a date at least 10 days after receipt of such notice by the Securities Depository (or such fewer number of days as shall be acceptable to the Securities Depository).

In the event that replacement Bonds are to be issued to participants in the Securities Depository or to beneficial owners of the Bonds, the University shall promptly have prepared replacement Bonds registered in the names of the participants as shown on the records of the former Securities Depository or, to the extent requested by any participant, in the names of the beneficial owners of Bonds shown on the records of such participant, as of the date set forth in the notice delivered in accordance with the immediately preceding paragraph. Replacement Bonds issued to participants in the Securities Depository or to beneficial owners shall be in fully registered form substantially in the form of Exhibit A. The form set forth in Exhibit A may be modified to include any variations, omissions or insertions that are necessary or desirable in the delivery of replacement certificates in printed form. In delivering replacement certificates, the Paying Agent shall be entitled to rely, without independent investigation, on the records of the former Securities Depository as to its participants and the records of the participants acting on behalf of the beneficial owners. The Bonds will thereafter be registrable and exchangeable as set forth in Sections 2.6 and 2.7.

- (d) So long as there is a Securities Depository for the Bonds, (1) such Securities Depository shall be the registered owner of the Bonds, (2) transfers of ownership and exchanges shall be effected on the records of the Securities Depository and its participants pursuant to rules and procedures established by such Securities Depository and its participants, and (3) references in this Bond Resolution to Bondholders, Holders or registered owners of the Bonds shall mean the Securities Depository and shall not mean the beneficial owners of the Bonds.
- (e) If the University replaces any Securities Depository as the depository for the Bonds with another qualified Securities Depository, replacement Bonds issued to such replacement Securities Depository shall have the same terms, form and content as the Bonds initially registered in the name of the predecessor Securities Depository or its nominee except for the name of the registered owner.
- (f) Each Securities Depository and the participants thereof and the beneficial owners of the Bonds, by their acceptance of the Bonds, agree that the University and the Paying Agent shall have no liability or responsibility with respect to (1) the accuracy of any records maintained by such Securities Depository or any Securities Depository participant; (2) the payment by such Securities Depository to any Securities Depository participant or by any Securities Depository participant to any beneficial owner of any amount due in respect of the principal of and interest on the Bonds; (3) the delivery or timeliness of delivery by such Securities Depository to any Securities Depository participant to any beneficial owner of any notice which is given to Bondholders; (4) the selection of the beneficial owners to receive payment in the event of any partial redemption of the Bonds; or (5) any consent given or

other action taken by such Securities Depository or any nominee of such Securities Depository, as Bondholder.

# ARTICLE III REDEMPTION OF THE BONDS

- **Section 3.1** Redemption of the Bonds. (a) The Bonds shall not be subject to prior redemption except as provided in this Article III.
  - (b) Reserved.
  - (c) Reserved.
- (d) The Bonds shall be subject to redemption in whole or in part on any date, at the option of the University, from the proceeds of casualty insurance or condemnation awards, at a redemption price equal to 100% of the principal amount thereof to be redeemed, without premium, plus accrued interest to the redemption date, if all or any part of the Project refinanced with the Bonds is damaged or destroyed or taken through the exercise of the power of eminent domain and an Authorized Officer has delivered a certificate to the Custodian to the effect that the University has determined not to use such proceeds to replace or rebuild the damaged, destroyed or taken property. In the event of a redemption in part pursuant to this paragraph, the University shall redeem the Bonds from each maturity then outstanding, to the extent practicable, in the proportion that the principal amount of the Bonds of such maturity bears to the total principal amount of the Bonds then outstanding.
- (e) Subject to applicable procedures of the Securities Depository while the Bonds are held in book-entry only form by the Securities Depository, and except as otherwise provided in the case of extraordinary optional redemption of the Bonds in accordance with subsection (d) above, if less than all of the Bonds are to be called for redemption, the Bonds to be redeemed shall be selected by the University in such manner as the University in its discretion may determine.
- Section 3.2 Notice of Redemption. (a) Whenever the Bonds are to be redeemed under the provisions of this Bond Resolution, the Paying Agent shall, not less than thirty (30) nor more than sixty (60) days prior to the redemption date, mail notice of redemption to all registered owners of all Bonds to be redeemed at their registered addresses. The Paying Agent shall also mail a copy of any such notice of redemption to any Rating Agency. Any such notice of redemption shall identify the Bonds to be redeemed, shall specify the redemption date and the redemption price, and shall state that on the redemption date the Bonds called for redemption will be payable at the designated office of the Paying Agent and that from that date interest will cease to accrue. The Paying Agent may use "CUSIP" numbers in notices of redemption as a convenience to Bondholders, provided that any such notice shall state that no representation is made as to the correctness of such numbers either as printed on the Bonds or as contained in any such notice.
- (b) If at the time of mailing of notice of any optional redemption the University shall not have caused to be deposited with the Paying Agent money sufficient to redeem all the Bonds called for redemption, such notice may state that it is conditional in that it is subject to the

deposit of such moneys with the Paying Agent not later than the redemption date, and such notice shall be of no effect unless such moneys are so deposited. Failure by the Paying Agent to give any notice of redemption or any defect in such notice as to any particular Bonds shall not affect the validity of the call for redemption of any Bonds in respect of which no such failure or defect has occurred. Any notice mailed as provided in this Bond Resolution shall be conclusively presumed to have been given whether or not actually received by any Holder.

- Section 3.3 Effect of Calling for Redemption. On the date designated for redemption, notice having been mailed in the manner and under the conditions hereinabove provided and moneys for payment of the redemption price being held in separate accounts by the Paying Agent in trust for the Holders of the Bonds to be redeemed, all as provided in this Bond Resolution, the Bonds so called for redemption shall become and be due and payable at the redemption price provided for redemption of such Bonds on such date, interest on the Bonds so called for redemption shall cease to accrue, such Bonds shall cease to be entitled to any benefit or security under this Bond Resolution and the Holders or registered owners of such Bonds shall have no rights with respect thereto except to receive payment of the redemption price.
- Section 3.4 The Bonds Redeemed Not Deemed Outstanding. The Bonds which have been duly called for redemption under the provisions of this Article, or with respect to which irrevocable instructions to call for redemption have been given by the Board to the Paying Agent in form satisfactory to him or her, and for the payment of the redemption price of which moneys shall be held in separate accounts by the Paying Agent in trust for the Holders of the Bonds to be redeemed, all as provided in this Bond Resolution, shall not thereafter be deemed to be outstanding under the provisions of this Bond Resolution.

## ARTICLE IV CUSTODY AND APPLICATION OF PROCEEDS OF THE BONDS

- **Section 4.1** <u>Custody and Application of Proceeds of the Bonds</u>. The proceeds of the Bonds shall be deposited by the Custodian as follows:
- (a) To the State Treasurer or its successor, as paying agent for the Series 2004 Bonds, the amount necessary to redeem all of the outstanding Series 2004 Bonds; and
- (b) The remainder shall be deposited into a special account created with the Custodian for the payment of expenses incident to the issuance of the Bonds. The Custodian shall make payments from such special account in accordance with written instructions provided by an Authorized Officer of the University, which instructions shall state each amount to be paid, the name of the recipient of each such payment and the purpose for which each such payment is being made, and shall include a certification that payment therefor has not been previously authorized and that the expenditures are a proper charge against such special account. Any amounts remaining in the special account on April _____, 2016, shall be deposited in the Debt Service Fund and applied to pay interest on such Bonds on the next Interest Payment Date.

#### ARTICLE V REVENUES AND FUNDS

- Section 5.1 <u>Debt Service Fund</u>. A fund shall be created by the Paying Agent designated "Virginia Polytechnic Institute and State University General Revenue Pledge Refunding Bonds, Series 2015E, Debt Service Fund" (the "Debt Service Fund"). All accrued interest, if any, received from the purchasers of the Bonds, as provided in Section 4.1, shall be transferred to the Paying Agent to the credit of the Debt Service Fund. On or before the day preceding each date on which payments of interest or principal shall be due and payable on the Bonds (a "Payment Date"), the University shall transfer or cause to be transferred to the Paying Agent for deposit an amount of money sufficient to cause the amount held in the Debt Service Fund to be equal to the interest and principal due on the Bonds on such Payment Date. The Paying Agent shall cause payment of the amounts due on the Bonds on each such Payment Date.
- **Section 5.2** Payments to Bondholders. The Paying Agent shall, at appropriate times on or before each Payment Date, withdraw from the Debt Service Fund the amounts needed on such date to pay the principal of and interest on the Bonds and shall pay or cause the same to be paid to the Bondholders as such principal and interest become due and payable.
- Section 5.3 <u>Pledge of Funds and Accounts</u>. The moneys in the Debt Service Fund shall be held in trust and applied as herein provided and, pending such application, shall be pledged to, and subject to a lien and charge in favor, of the Holders of the Bonds issued and outstanding under this Bond Resolution and for the further security of such Holders until paid out or transferred as herein provided.
- Section 5.4 Moneys Held in Trust. All moneys from the funds of the University or that the University shall have received from any other source and set aside or deposited with any Paying Agent for the purpose of paying any of the Bonds hereby secured, either at the maturity thereof or upon call for redemption, shall be held in trust for the respective Holders of such Bonds. Any moneys which shall be so set aside or deposited and which shall remain unclaimed by the Holders of such Bonds for the period of five (5) years after the date on which such Bonds shall have become due and payable shall be disposed of by the University and the Paying Agent in accordance with The Uniform Disposition of Unclaimed Property Act, Chapter 11.1, Title 55, Code of Virginia of 1950, as amended (the "Unclaimed Property Act"). The Paying Agent shall be entitled to act in good faith in reliance on written direction from the University or its counsel in complying with the Unclaimed Property Act, absent the Paying Agent's negligence or willful misconduct.
- Section 5.5 <u>Cancellation of the Bonds Upon Payment</u>. All Bonds paid, redeemed or purchased by the University, either at or before maturity, shall be canceled upon the payment, redemption or purchase of such Bonds and shall be delivered to the University when such payment, redemption or purchase is made. All Bonds canceled under any of the provisions of this Bond Resolution may be cremated or otherwise destroyed by the University or its designee.
- Section 5.6 No Risk to Paying Agent Funds. No provision herein shall require the Paying Agent to expend its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of any of its rights or powers unless

the Paying Agent shall have reasonable grounds for believing that repayment of such funds or adequate indemnity against such risk or liability is reasonably assured to it.

#### ARTICLE VI PARTICULAR COVENANTS

Revenues. The University covenants that it will promptly pay or cause to be paid from the sources described herein the principal of and the interest on every Bond issued under the provisions of this Bond Resolution at the place or places, on the dates and in the manner provided herein and in such Bonds, according to the true intent and meaning thereof. Except as otherwise provided in this Bond Resolution, such principal and interest are payable solely from Pledged General Revenues, which Pledged General Revenues are hereby pledged to the payment thereof and to the payment of any Parity Credit Obligations issued by the University which may include any interest rate swaps or other hedge mechanisms and any dedicated line of credit, standby bond purchase agreement or other liquidity facility related to the Bonds.

THE UNIVERSITY SHALL NOT BE OBLIGATED TO PAY THE PRINCIPAL OF OR INTEREST ON THE BONDS EXCEPT FROM THE SOURCES NOTED HEREIN AS PLEDGED THEREFOR. THE BONDS AND THE INTEREST THEREON SHALL NOT BE DEEMED TO CONSTITUTE A DEBT OR LIABILITY OF THE COMMONWEALTH, LEGAL, MORAL OR OTHERWISE. NEITHER THE COMMONWEALTH NOR THE UNIVERSITY SHALL BE OBLIGATED TO PAY THE PRINCIPAL OF OR INTEREST ON THE BONDS OR OTHER COSTS INCIDENT THERETO EXCEPT FROM THE SOURCES NOTED HEREIN AS PLEDGED THEREFOR, AND NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE COMMONWEALTH ARE PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF OR INTEREST ON THE BONDS OR OTHER COSTS INCIDENT THERETO.

- Section 6.2 <u>Interest Rate Agreements</u>. The University may enter into Interest Rate Agreements, the amounts payable by the University under which are on a parity, or are subordinate, as to right to payment from Pledged General Revenues with the Bonds. Each Parity Interest Rate Agreement shall designate which payments thereon, whether regularly scheduled payments, termination payments or other payments, are on a parity with the holders of the Bonds as to the right to payment from Pledged General Revenues.
- **Section 6.3** Additional Indebtedness and Encumbrances. The University may incur or issue other Credit Obligations payable from or secured by Pledged General Revenues only if the conditions set forth below in subsection (a), (b), (c) or (e) are met in each instance:
- (a) <u>Limitation on Parity Credit Obligations</u>. All other Credit Obligations issued by the University on the date of issuance of the Bonds shall be Parity Credit Obligations insofar as Pledged General Revenues are concerned. The University may incur, assume, guarantee or otherwise become liable on any other Parity Credit Obligation, but only if, prior to the incurrence of each such Parity Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Parity Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its

obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such Parity Credit Obligation and (B) the completion of any facility financed with the proceeds of such Parity Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Parity Credit Obligation, and (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of this Bond Resolution. Any such Parity Credit Obligation shall be designated by the University as a Parity Credit Obligation and shall be secured by a pledge of Pledged General Revenues on a parity with the pledge of Pledged General Revenues herein, unless expressly subordinated to the pledge hereof.

- (b) Limitation on Section 9(c) Credit Obligations. The University may incur, assume, guarantee or otherwise become liable on any Credit Obligation pursuant to the provisions of Article X, Section 9(c) of the Constitution of Virginia, as such section may be amended from time to time, and may pledge and apply such portion of the Pledged General Revenues as may be necessary to provide for the payment of any such Credit Obligation, the funding of reasonable reserves therefor, or the payment of operating and other reasonable expenses of the facilities financed in whole or in part with the proceeds of such Credit Obligation or facilities reasonably related to such facilities, but only if, prior to the incurrence of each such Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such proposed Credit Obligation and (B) the completion of any facility financed with the proceeds of such proposed Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Credit Obligation, (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of this Bond Resolution, and (3) in connection with the issuance of such proposed Credit Obligation, the University has received an opinion of Bond Counsel to the effect that such proposed Credit Obligation has been validly issued under Article X, Section 9(c) of the Constitution of Virginia. If any such Credit Obligation is designated by the University as a Qualifying Senior Obligation, the pledge of Pledged General Revenues securing such Credit Obligation as described above shall be senior and superior in all respects to the pledge of Pledged General Revenues securing the Bonds, any other Parity Credit Obligations and any Parity Swap Obligations.
- (c) <u>Limitation on Other Credit Obligations</u>, <u>Including Section 9(d) Credit Obligations</u>. The University may incur, assume, guarantee or otherwise become liable on any Credit Obligation not described elsewhere in this Section 6.3, including any Credit Obligation incurred pursuant to the provisions of Article X, Section 9(d) of the Constitution of Virginia, as such section may be amended from time to time, and may pledge and apply such portion of the

Pledged General Revenues as may be necessary for the payment of any such Credit Obligation, the funding of reasonable reserves therefor, or the payment of operating and other reasonable expenses of the facilities financed in whole or in part with the proceeds of such Credit Obligation or facilities reasonably related to such facilities, but only if, prior to the incurrence of each such Credit Obligation, an Authorized Officer of the University certifies in writing that (1) taking into account the incurrence of such proposed Credit Obligation (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Parity Swap Obligations, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after the later of (A) the issuance of such proposed Credit Obligation and (B) the completion of any facility financed with the proceeds of such proposed Credit Obligation, and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts, as and when due and payable, under all indebtedness and Interest Rate Agreements of the University during the term of such proposed Credit Obligation, (2) to the best of his or her knowledge, the University is not in default in the performance and observance of any of the provisions of this Bond Resolution, and (3) the University has received an opinion of Bond Counsel to the effect that such proposed Credit Obligation has been validly issued under the relevant provisions of the Constitution of Virginia. If any such Credit Obligation is designated by the University as a Qualifying Senior Obligation, the pledge of Pledged General Revenues securing such Credit Obligation as described above shall be senior and superior in all respects to the pledge of Pledged General Revenues securing the Bonds, any other Parity Credit Obligations and any Parity Swap Obligations.

- (d) <u>Limitation on Issuance of Indebtedness on a Parity with Qualifying Senior Obligations</u>. Except for Credit Obligations issued pursuant to subsections (b) or (c) above or to refund any Qualifying Senior Obligation as described in subsection (e) below, no additional bonds or other obligations may be issued or incurred by the University on a parity with any Qualifying Senior Obligation.
- (e) <u>Limitation on Issuance of other Credit Obligations or Additional Encumbrances</u>. The University shall not issue Credit Obligations payable from Pledged General Revenues or otherwise encumber the Pledged General Revenues in any manner (except as permitted in connection with Parity Swap Obligations pursuant to Section 6.2 or Credit Obligations issued pursuant to subsections (a), (b) or (c) above or to refund any Qualifying Senior Obligation as described below), unless any such encumbrance is made junior and subordinate in all respects to the liens, pledges, covenants and agreements of this Bond Resolution. Notwithstanding anything to the contrary herein, however, the University may issue bonds to refund any Qualifying Senior Obligation and to secure such refunding bonds with the same source of revenues securing the Qualifying Senior Obligation pursuant to any such refunding, the refunding bonds will be considered Qualifying Senior Obligations for all purposes.
- Section 6.4 <u>Disposition of Assets</u>. The University may convey, sell or otherwise dispose of any property of the University as long as (1) such conveyance, sale or encumbrance is in the ordinary course of business, or (2) an Authorized Officer certifies in writing that, taking into account the conveyance, sale or other disposition of such property (i) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay

principal of and interest and other amounts on all Credit Obligations and Interest Rate Agreements, as and when due and payable in accordance with their terms, for all Fiscal Years to and including the second full Fiscal Year after such conveyance, sale or other disposition and (ii) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts due under all indebtedness of the University then outstanding.

- **Section 6.5** <u>Insurance</u>. The University covenants that it will at all times carry or cause to be carried insurance policies with a responsible insurance company or companies, qualified to assume the risks thereof, or that it will maintain an adequate program of self-insurance, in either case sufficient to provide the University with insurance in such amount and covering such risks as the University shall deem to be reasonable and desirable.
- **Section 6.6** Rights of Bondholders Not to Be Impaired. Except as otherwise set forth herein, the University covenants that no contract or contracts will be entered into or any action taken which might impair or diminish the rights of the Bondholders.
- **Section 6.7** <u>Further Instruments and Actions</u>. The University covenants that it will, from time to time, execute and deliver such further instruments and take such further action as may be required to carry out the purposes of this Bond Resolution.
- **Section 6.8** <u>Accurate Records and Accounts</u>. The University covenants that it will keep accurate records and accounts of all items of cost and of all expenditures relating to Pledged General Revenues collected and the application of such Pledged General Revenues.
- **Section 6.9** Recognized Accounting Principles. The University covenants that all of the accounts and records of the University will be kept according to generally accepted accounting principles consistently applied.
- Section 6.10 <u>Tax Covenants</u>. (a) The University shall not use or permit the use of any proceeds of Bonds or any other funds of the University, directly or indirectly, to acquire any securities or obligation, and shall not use or permit the use of any amounts received by the University or the Custodian with respect to the Bonds in any manner, and shall not take or permit to be taken any other action or actions, which would cause any Bond to be an "arbitrage bond" within the meaning of Section 148 of the Code. If at any time the University is of the opinion that for purposes of this subsection it is necessary to restrict or limit the yield on the investment of any moneys held or controlled by it under this Bond Resolution, the University shall so instruct the Custodian, any trustee or the Paying Agent in writing, and such Custodian, trustee or Paying Agent shall take such action as may be reasonably necessary in accordance with such instructions.
- (b) The University shall not use or permit the use of any proceeds of Bonds or any other funds of the University, directly or indirectly, in any manner, and shall not take or permit to be taken any other action or actions, which would result in any of the Bonds being treated as an obligation not described in Section 103(a) of the Code by reason of classification of such Bond as a "private activity bond" or an "arbitrage bond" or "bond not in registered form" within the meaning of Section 103(b) of the Code.

- (c) The University shall at all times do and perform all acts and things permitted by law and this Bond Resolution which are necessary or desirable in order to ensure that interest paid on the Bonds or any of them will be excludable from gross income for federal income tax purposes and shall take no action that would result in such interest not being excludable from gross income for federal income tax purposes.
- (d) The University covenants that no more than 10% of the space in the Projects will be leased to or used exclusively by a private entity nor will more than 10% of the revenues to be derived from the Projects be payable, directly or indirectly, by a private entity.
- (e) The University covenants that it shall file the information report with respect to the Bonds required by Section 149(e) of the Code (currently Form 8038-G) within the time period provided in such Section.
- (f) The University represents that the Bonds are not and will not be "federally guaranteed," as such term is used in Section 149(b) of the Code.
- (g) Notwithstanding the foregoing, the University may amend this section or alter or eliminate any actions or restrictions allowed or required by this section, if it receives an opinion of Bond Counsel that such amendments, alterations or eliminations would not alter the Bondholders' U.S. federal income tax treatment of principal and interest payments on the Bonds.

### ARTICLE VII EVENTS OF DEFAULT AND REMEDIES

- **Section 7.1** Events of Default. Each of the following events is hereby declared to be an "Event of Default" under this Bond Resolution:
- (a) due and punctual payment of the principal of any of the Bonds is not made when the same becomes due and payable, either at maturity or by proceedings for redemption or otherwise;
- (b) due and punctual payment of any interest on any of the Bonds is not made when the same becomes due and payable;
- (c) the University, for any reason, is rendered incapable of fulfilling its obligations hereunder;
- (d) an order or decree is entered, with the consent or acquiescence of the University, appointing a receiver or receivers of the University or any part thereof or of the revenues thereof, or if such order or decree, having been entered without the consent or acquiescence of the University, is not vacated or discharged or stayed on appeal within sixty (60) days after the entry thereof;
- (e) any proceeding is instituted, with the consent or acquiescence of the University, for the purpose of effecting a composition between the University and its creditors or for the purpose of adjusting the claims of such creditors pursuant to any federal or state statute now or hereafter enacted;

- (f) the University defaults in the due and punctual performance of any other of the covenants, conditions, agreements and provisions contained in the Bonds or in this Bond Resolution on the part of the University to be performed, and such default continues for thirty (30) days after written notice specifying such default and requiring same to be remedied is given to the Board by any Bondholder, provided that if such default is such that it can be corrected but cannot be corrected within such thirty (30) day period, it shall not constitute an Event of Default if corrective action is instituted by the University within such period and is diligently pursued until the default is corrected; or
- (g) an Event of Default occurs under any Parity Credit Obligation or Parity Interest Rate Agreement.
- Section 7.2 <u>Remedies</u>. (a) Upon the happening and continuance of an Event of Default, hereunder, the Holders of not less than 25% in aggregate principal amount of the Bonds, by instrument or instruments filed with the University and proved or acknowledged in the same manner as a deed to be recorded, may appoint a trustee to represent the Holders of the Bonds for the purposes herein, which trustee may be the State Treasurer and shall be the same trustee so appointed with respect to all other outstanding Parity Credit Obligations and Parity Swap Obligations. Such trustee may, and upon written request of the Holders of not less than 25% in principal amount of the Bonds then outstanding shall, in its own name:
  - (1) by mandamus or other suit, action or proceeding at law or in equity enforce all rights of the Holders of the Bonds, including the right to require the University and its Board to collect fees, rents, charges or other revenues adequate to carry out an agreement as to, or pledge of, such revenues, and to require the University and Board to carry out any other agreements with the Holders of the Bonds and to perform it and their duties under the Act;
    - (2) bring suit upon the Bonds;
  - (3) by action or suit in equity, require the University to account as if it were the trustee of an express trust for the Holders of the Bonds; or
  - (4) by action or suit in equity, enjoin any acts or things which may be unlawful or in violation of the rights of the Holders of the Bonds.
- (b) Any such trustee, whether or not all such Bonds have been declared due and payable, shall be entitled as of right to the appointment of a receiver who may enter and take possession of any property of the University any of the revenues from which are pledged for the security of the Bonds and operate and maintain the same and collect and receive all fees, rents, charges and other revenues thereafter arising therefrom in the same manner as the University itself might do and shall deposit all such moneys in a separate account and apply the same in such manner as the court appointing such receiver shall direct. In any suit, action or proceeding by the trustee the fees, counsel fees and expenses of the trustee and of the receiver, if any, shall constitute taxable costs and disbursements and all costs and disbursements allowed by the court shall be a first charge on any fees, rents, charges and other revenues of the University pledged for the security of the Bonds.

Such trustee shall, in addition to the foregoing, have and possess all of the powers necessary or appropriate for the exercise of any functions specifically set forth herein or incident to the general representation of the Holders of the Bonds in the enforcement and protection of their rights.

- (c) To the extent permitted by law, upon the happening and continuance of any Event of Default, then and in every such case any Bondholder may proceed, subject to the provisions of Section 7.5, to protect and enforce the rights of the Bondholders by a suit, action or special proceeding in equity or at law, either for the specific performance of any covenant or agreement contained herein or in aid or execution of any power herein granted or for the enforcement of any proper legal or equitable remedy as such Bondholder shall deem most effectual to protect and enforce such rights.
- Section 7.3 Pro Rata Application of Funds. Anything in this Bond Resolution to the contrary notwithstanding, if at any time the moneys available in the Debt Service Fund shall not be sufficient to pay the interest on or the principal of the Bonds as the same shall become due and payable, such moneys, together with any moneys then available or thereafter becoming available for such purpose, whether through the exercise of the remedies provided for in this Article or otherwise, shall be applied first to the payment of any fees and expenses of the Custodian, Paying Agent and Registrar and thereafter shall be applied as follows:
- (a) If the principal of all the Bonds shall not have become due and payable, all such moneys shall be applied:

first: to the payment to the persons entitled thereto of all installments of interest then due and payable in the order in which such installments became due and payable and, if the amount available shall not be sufficient to pay in full any particular installment, then to the payment, ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference except as to any difference in the respective rates of interest specified in the Bonds; and

second: to the payment to the persons entitled thereto of the unpaid principal of any of the Bonds which shall have become due and payable (other than Bonds called for redemption for the payment of which moneys are held pursuant to the provisions of this Bond Resolution), in the order of their due dates, with interest on the principal amount of such Bonds at the respective rates specified therein from the respective dates upon which such Bonds became due and payable, and, if the amount available shall not be sufficient to pay in full the principal of the Bonds due and payable on any particular date, together with such interest, then to the payment first of such interest, ratably, according to the amount of such principal due on such date, and then to the payment of such principal, ratably, according to the amount of such principal due on such date, to the persons entitled thereto without any discrimination or preference.

(b) If the principal of all the Bonds shall have become due and payable, all such moneys shall be applied to the payment of the principal and interest then due and unpaid on the Bonds, without preference or priority of principal over interest or interest over principal, or of any installment of interest over any other installment of interest, or of any Bond over any other

Bond, ratably, according to the amounts due, respectively, for principal and interest, to the persons entitled thereto, without any discrimination or preference.

Whenever moneys are to be applied by the trustee pursuant to the provisions of this Section, such moneys shall be applied by the trustee at such times, and from time to time, as the trustee in his or her sole discretion shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future; the deposit of such moneys with any Paying Agent, or otherwise setting aside such moneys, in trust for the proper purpose shall constitute proper application by the trustee; and the trustee shall incur no liability whatsoever to the Board, to any Bondholder or to any other person for any delay in applying any such moneys, so long as the trustee acts with reasonable diligence, having due regard to the circumstances, and ultimately applies the same in accordance with such provisions of this Bond Resolution as may be applicable at the time of application by the trustee. Whenever the trustee shall exercise such discretion in applying such moneys, he or she shall fix the date (which shall be an Interest Payment Date unless the trustee shall deem another date more suitable) upon which such application is to be made and upon such date interest on the amounts of principal to be paid on such date shall cease to accrue. The trustee shall give such notice (or shall cause the Paying Agent to give such notice) as he or she may deem appropriate of the fixing of any such date and shall not be required to make payment to the Holder of any Bond until such Bond shall be surrendered to the trustee or any Paying Agent for appropriate endorsement, or for cancellation if fully paid.

Notwithstanding anything in this Bond Resolution to the contrary, this Section 7.3 shall be interpreted so that the term "Bonds" or "Bonds" shall include the Bonds and any Parity Credit Obligations. In each resolution authorizing the issuance of any Parity Credit Obligation, the University agrees to provide for the trustee or paying agent thereunder to be the same entity as under this Bond Resolution, and further agrees to include provisions substantially identical to those contained in this Section 7.3.

**Section 7.4** <u>Effect of Discontinuance of Proceedings</u>. In case any proceeding taken by any Bondholder on account of any Event of Default shall have been discontinued or abandoned for any reason, then and in every such case the University and the Bondholders shall be restored to their former positions and rights hereunder, respectively, and all rights and remedies of the Bondholders shall continue as though no such proceeding had been taken.

Section 7.5 <u>Proceedings for Equal Benefit of All Bondholders</u>. No Bondholder shall have any right in any manner whatever to affect, disturb or prejudice the security of this Bond Resolution or to enforce any right hereunder, except in the manner herein provided, and all proceedings at law or in equity shall be instituted, had and maintained for the equal benefit of all Bondholders.

**Section 7.6** <u>No Remedy Exclusive</u>. No remedy herein conferred on the Bondholders is intended to be exclusive of any other remedy or remedies, and each and every remedy conferred shall be cumulative and shall be in addition to every other remedy given hereunder and under the Act or now or hereafter existing at law or in equity or by statute.

Section 7.7 No Delay or Omission Construed to Be a Waiver. No delay or omission of any Bondholder to exercise any right or power accruing upon any Event of Default occurring and continuing as aforesaid shall impair any such right or power or shall be construed to be a waiver of any such Event of Default or an acquiescence therein; and every power and remedy given by this Article to the Bondholders may be exercised from time to time and as often as may be deemed expedient.

# ARTICLE VIII EXECUTION OF INSTRUMENTS BY BONDHOLDERS AND PROOF OF OWNERSHIP OF THE BONDS

- Section 8.1 Execution of Instruments; Proof of Ownership. Any request, direction, consent or other instrument in writing required or permitted by this Bond Resolution to be signed or executed by Bondholders may be in any number of concurrent instruments of similar tenor and may be signed or executed by such Bondholders or their attorneys or legal representatives. Proof of the execution of any such instrument and of the ownership of the Bonds shall be sufficient for any purpose of this Bond Resolution and shall be conclusive in favor of the University and the Paying Agent with regard to any action taken by them under such instrument if made in the following manner:
- (a) The fact and date of the execution by any person of any such instrument may be proved by the verification of any officer in any jurisdiction who, by the laws thereof, has power to take affidavits within such jurisdiction, to the effect that such instrument was subscribed and sworn to before him or her, or by an affidavit of a witness to such execution. Where such execution is by an officer of a corporation or association or a member of a partnership on behalf of such corporation, association or partnership such verification or affidavit shall also constitute sufficient proof of his or her authority.
- (b) The fact of the holding of the Bonds hereunder by any Bondholder and the amount and the numbers of such Bonds and the date of its holding the same shall be proved by the registration books kept under the provisions of Section 2.7.

# ARTICLE IX SUPPLEMENTAL RESOLUTIONS

- **Section 9.1** <u>Supplemental Resolutions</u>. The University may, from time to time and at any time, without the consent of any Holders of the Bonds, adopt such resolutions supplemental hereto as shall not be inconsistent with the terms and provisions hereof (which supplemental resolutions shall thereafter form a part hereof), as follows:
- (a) to cure any ambiguity or formal defect or omission or to correct any inconsistent provisions in this Bond Resolution or in any supplemental resolutions;
- (b) to provide for the issuance of certificated Bonds pursuant to Section 2.11 of this Bond Resolution, or to obtain or maintain a rating for the Bonds;
- (c) to grant to or confer upon the Bondholders any additional rights, remedies, powers, authority or security that may lawfully be granted to or conferred upon the Bondholders;

- (d) to add new conditions, limitations and restrictions on the issuance of other Credit Obligations by the University;
- (e) to add to the covenants and agreements of the Board in this Bond Resolution other covenants and agreements thereafter to be observed by the Board or to surrender any right or power herein reserved to or conferred upon the Board;
- (f) to comply with any proposed, temporary or permanent regulations regarding the arbitrage rebate requirements of the Code; or
- (g) to modify, alter, amend, add to or rescind, in any particular, any of the terms or provisions contained in this Bond Resolution, if in the opinion of the Paying Agent, who may rely upon an opinion of counsel nationally recognized in matters concerning municipal bonds, such supplemental resolution shall not adversely affect or prejudice the interests of the Bondholders.

At least thirty (30) days prior to the adoption of any supplemental resolution for any of the purposes of this Section, an Authorized Officer of the University shall cause a notice of the proposed adoption of such supplemental resolution to be mailed, postage prepaid, to all registered owners of Bonds at their addresses as they appear on the registration books. Such notice shall briefly set forth the nature of the proposed supplemental resolution and shall state that copies thereof are on file at the office of the Secretary of the Board for inspection by all Bondholders. Failure on the part of an Authorized Officer of the University to mail the notice required by this Section shall not affect the validity of such supplemental resolution.

Modification of Resolution with Consent of Holders. Subject to the terms and provisions contained in this Section, and not otherwise, the Holders of not less than a majority in aggregate outstanding principal amount of the Bonds then outstanding shall have the right, from time to time, anything contained in this Bond Resolution to the contrary notwithstanding, to consent to and approve the adoption of such resolution or resolutions supplemental hereto as shall be deemed necessary or desirable by the Board for the purpose of modifying, altering, amending, adding to or rescinding, in any particular, any of the terms or provisions contained in this Bond Resolution or in any supplemental resolution; provided, however, that nothing herein contained shall permit, or be construed as permitting, (a) without the approval of all of the Bondholders, (i) an extension of the maturity of the principal of or the interest on any Bond, (ii) a reduction in the principal amount of any Bond or the rate of interest thereon, (iii) except as otherwise provided herein, a preference or priority of any Bond or Bonds over any other Bond or Bonds, or (iv) except as otherwise provided herein, the release of the lien created by this Bond Resolution with respect to any Pledged General Revenues, or (b) without the approval of all of the Bondholders, a reduction in the aggregate principal amount of the Bonds required for consent to such supplemental resolution. Nothing herein contained, however, shall be construed as making necessary the approval by Bondholders of the adoption of any supplemental resolution as authorized in Section 9.1 of this Article.

If at any time the Board shall determine that it is necessary or desirable to adopt any supplemental resolution for any of the purposes of this Section, an Authorized Officer of the University shall cause notice of the proposed adoption of such supplemental resolution to be

mailed, not less than thirty (30) nor more than sixty (60) days prior to the date of such adoption, postage prepaid, to all registered owners of the Bonds at their addresses as they appear on the registration books held by the Registrar. Such notice shall briefly set forth the nature of the proposed supplemental resolution and shall state that copies thereof are on file at the office of the Secretary of the Board for inspection by all Bondholders. The Board shall not, however, be subject to any liability to any Bondholder by reason of a failure to cause the notice required by this Section to be mailed and any such failure shall not affect the validity of such supplemental resolution when consented to and approved as provided in this Section.

Whenever, at any time within one year after the date of such notice, the Board shall deliver to the Paying Agent an instrument or instruments in writing purporting to be executed by the Holders of not less than a majority or all, as appropriate, in aggregate principal amount of the Bonds then outstanding, which instrument or instruments shall refer to the proposed supplemental resolution described in such notice and shall specifically consent to and approve the adoption thereof in substantially the form of the copy thereof referred to in such notice, thereupon, but not otherwise, the Board may adopt such supplemental resolution in substantially such form, without liability or responsibility to any Holder of any Bond, whether or not such Holder shall have consented thereto.

If the Holders of not less than a majority or all, as appropriate, in aggregate principal amount of the Bonds outstanding at the time of the adoption of such supplemental resolution shall have consented to and approved the adoption thereof as herein provided, no Bondholder shall have any right to object to the adoption of such supplemental resolution, or to object to any of the terms and provisions contained therein or the operation thereof, or in any manner to question the propriety of the adoption thereof, or to enjoin or restrain the Board from adopting the same or from taking any action pursuant to the provisions thereof.

Upon the adoption of any supplemental resolution pursuant to the provisions of this Section, this Bond Resolution shall be and be deemed to be modified and amended in accordance therewith, and the respective rights, duties and obligations under this Bond Resolution of the University, the Board, and all Holders of Bonds then outstanding shall thereafter be determined, exercised and enforced in all respects under the provisions of this Bond Resolution as so modified and amended.

Section 9.3 <u>Supplemental Resolutions Part of this Bond Resolution</u>. Any supplemental resolution adopted in accordance with the provisions of this Article shall thereafter form a part of this Bond Resolution, and all of the terms and conditions contained in any such supplemental resolution as to any provision authorized to be contained therein shall be and shall be deemed to be part of the terms and conditions of this Bond Resolution for any and all purposes. In case of the adoption and approval of any supplemental resolution, express reference may be made thereto in the text of any Bonds issued thereafter, if deemed necessary or desirable by the Board.

**Section 9.4** <u>Amendments of Resolution Prior to Delivery of Bonds</u>. On or prior to the delivery of the Bonds, the Chief Financial Officer or the University Treasurer may make such changes to, and complete any blanks in, this Bond Resolution as shall be necessary to accurately reflect all negotiations among the University and the Underwriters with respect to the structuring

of the financing, including, without limitation, the terms and provisions of the Bonds, the dates and amounts set forth in Section 2.1 and Section 2.2, the redemption provisions set forth in Section 3.1, whether any of the refundings contemplated by this Resolution is to be excluded from the financing and whether the Bonds are to be insured or credit enhanced, in whole or in part; provided, however, that no such amendment shall increase the principal amount of the Bonds by greater than 10%. On or prior to the delivery of the Bonds, the Chief Financial Officer or the University Treasurer shall deliver to the Secretary of the Board a copy of this Resolution with all of the changes and completions referred to in the preceding sentence (the "Final Resolution"), together with a certificate of the Chief Financial Officer or the University Treasurer to the effect that the resolution so delivered is the Final Resolution. The Secretary shall file such Final Resolution with the minutes of the meeting at which this Resolution is adopted. Such certificate of the Chief Financial Officer or the University Treasurer referred to above shall be conclusive evidence that any changes made are approved and effective as if such Final Resolution were adopted by the Board.

### ARTICLE X DEFEASANCE

- **Section 10.1** <u>Defeasance</u>. If the University shall pay or provide for the payment of the entire indebtedness on all Bonds outstanding in any one or more of the following ways:
- (i) by paying or causing to be paid the principal of and interest on all Bonds outstanding, as and when the same become due and payable;
- (ii) by depositing with the Paying Agent, in trust, at or before maturity, moneys in an amount sufficient to pay or redeem (when redeemable) all Bonds outstanding (including the payment of interest payable on such Bonds to the maturity or redemption date thereof), provided that such moneys, if invested, shall be invested at the written direction of the University in noncallable Government Obligations in an amount, without consideration of any income or increment to accrue thereon, sufficient to pay or redeem (when redeemable) and discharge the indebtedness on all Bonds outstanding at or before their respective maturity dates; it being understood that the investment income on such Government Obligations may be used for any other lawful purpose;
- (iii) by delivering to the Paying Agent, for cancellation by it, all Bonds outstanding; or
- (iv) by depositing with the Paying Agent, in trust, noncallable Government Obligations in such amounts as will, together with the income or increment to accrue thereon, without consideration of any reinvestment thereof, and any uninvested cash, be fully sufficient to pay or redeem (when redeemable) and discharge the indebtedness on all Bonds outstanding at or before their respective maturity dates, as an independent certified public accountant shall certify to the Paying Agent's satisfaction;

and if the University shall pay or cause to be paid all other sums payable hereunder by the University, and, if any of the Bonds are to be redeemed before their maturity, notice of such redemption shall have been given as in Section 3.2 provided or provisions satisfactory to the

Paying Agent shall have been made for the giving of such notice, this Bond Resolution and the estate and rights granted hereunder shall cease, determine, and become null and void, and thereupon the Paying Agent shall, upon written request of the University, and upon receipt by the Paying Agent of a certificate of an Authorized Officer of the University stating that in the opinion of such Authorized Officer all conditions precedent to the satisfaction and discharge of this Bond Resolution have been complied with, forthwith execute proper instruments acknowledging satisfaction of and discharging this Bond Resolution and the lien hereof.

The University may at any time surrender to the Paying Agent for cancellation by it any Bonds previously authenticated and delivered, which the University may have acquired in any manner whatsoever, and such Bonds, upon such surrender and cancellation, shall be deemed to be paid and retired.

Section 10.2 <u>Liability of University Not Discharged</u>. Upon the deposit with the Paying Agent, in trust, at or before maturity, of money or Government Obligations in the necessary amount to pay or redeem all Bonds outstanding (whether upon or before their maturity or the redemption date of such Bonds) and compliance with the other payment requirements of Section 10.1, provided that if such Bonds are to be redeemed before their maturity, notice of such redemption shall have been given as in Section 3.2 provided, or provisions satisfactory to the Paying Agent shall have been made for the giving of such notice, this Bond Resolution may be discharged in accordance with the provisions hereof but the University's liability in respect of the Bonds shall continue provided that the Holders thereof shall thereafter be entitled to payment only out of the moneys or the Government Obligations deposited with the Paying Agent as aforesaid.

**Section 10.3** <u>Provision for Payment of Particular Bonds</u>. If the University shall pay or provide for the payment of the entire indebtedness on particular Bonds in any one or more of the following ways:

- (a) by paying or causing to be paid the principal of and interest on such Bonds, as and when the same shall become due and payable;
- (b) by depositing with the Paying Agent, in trust, at or before maturity, moneys in an amount sufficient to pay or redeem (when redeemable) such Bonds (including the payment of interest payable on such Bonds to the maturity or redemption date thereof), provided that such moneys, if invested, shall be invested at the written direction of the University in noncallable Government Obligations in an amount, without consideration of any income or increment to accrue thereon, sufficient to pay or redeem (when redeemable) and discharge the indebtedness on such Bonds at or before their respective maturity dates; it being understood that the investment income on such Government Obligations may be used for any lawful purpose;
  - (c) by delivering to the Paying Agent, for cancellation by it, such Bonds; or
- (d) by depositing with the Paying Agent, in trust, noncallable Government Obligations in such amount as will, together with the income or increment to accrue thereon, and any uninvested cash, without consideration of any reinvestment thereof, be fully sufficient to pay or redeem (when redeemable) and discharge the indebtedness on such Bonds at or before their

respective maturity dates, as an independent certified public accountant shall certify to Paying Agent's satisfaction;

and if the University shall also pay or cause to be paid all other sums payable hereunder by the University with respect to such Bonds, and, if such Bonds are to be redeemed before their maturity, notice of such redemption shall have been given as in Section 3.2 provided or provisions satisfactory to the Paying Agent shall have been made for the giving of such notice, such Bonds shall cease to be entitled to any lien, benefit or security under this Bond Resolution. The University's liability in respect of such Bonds, if any, shall continue but the Holders thereof shall thereafter be entitled to payment (to the exclusion of all other Bondholders) only out of the moneys or Government Obligations deposited with the Paying Agent as aforesaid.

# ARTICLE XI MISCELLANEOUS PROVISIONS

Section 11.1 <u>Effect of Covenants</u>. All covenants, stipulations, obligations and agreements of the University and the Board contained in this Bond Resolution shall be deemed to be covenants, stipulations, obligations and agreements of the University and the Board to the full extent authorized by the Act or permitted by the Constitution of Virginia. All such covenants, stipulations, obligations and agreements shall be binding upon the successor or successors thereof from time to time and upon any officer, board, body or commission to whom or to which any power or duty affecting such covenants, stipulations, obligations and agreements shall be transferred by or in accordance with law.

No covenant, stipulation, obligation or agreement herein contained shall be deemed to be a covenant, stipulation, obligation or agreement of any present or future director, member, agent or employee of the University or the Board in his or her individual capacity, and no agency of the Commonwealth nor any officer thereof or of the University, present or future, executing the Bonds shall be liable personally on the Bonds or be subject to any personal liability or accountability by reason of the issuance thereof.

Section 11.2 Successor Paying Agents or Registrars. Any bank or trust company authorized to do business in the Commonwealth may be appointed by the University as successor Paying Agent or Registrar hereunder and immediately upon acceptance of such appointment shall be deemed the successor of the Paying Agent or Registrar for the purposes of this Bond Resolution. The University shall give notice to any Rating Agency of its appointment of any successor Paying Agent or Registrar. The reasonable fees and expenses of any such successor Paying Agent or Registrar shall be the sole obligation of the University and shall constitute a pledge of the Pledged General Revenues prior to the Bonds, to the extent such fees and expenses are unpaid.

Section 11.3 <u>Manner of Giving Notice</u>. Any notice, demand, direction, request or other instrument authorized or required by this Bond Resolution to be given to or filed with the University, the Paying Agent, the Registrar, the Custodian or the Rating Agencies shall be deemed to have been sufficiently given or filed for all purposes of this Bond Resolution if and when sent by registered or certified mail, return receipt requested:

- (1) to the University, if addressed to Virginia Polytechnic Institute and State University, 210 Burruss Hall, 800 Drillfield Drive, Blacksburg, Virginia 24061, Attention: Chief Financial Officer and University Treasurer;
- (2) to the Custodian, Paying Agent and/or Registrar, if addressed to The Bank of New York Mellon Trust Company, N.A., 525 William Penn Place, 38th Floor, Pittsburgh, Pennsylvania 15259, Attention: Corporate Trust Administration;
- (3) to Moody's, if addressed to Moody's Investor Services, 7 World Trade Center, 250 Greenwich Street, New York, New York 10007, Attention: Structured Finance, Telecopier: (212) 298-6442;
- (4) to S&P, if addressed to Standard & Poor's, at 55 Water Street, 38th Floor, New York, New York 10041, Attention: Public Finance Department (Surveillance), Telecopier: (212) 438-2152; and
- (5) to Fitch, if addressed to Fitch Ratings, One State Street Plaza, New York, New York 10004, Attention: Municipal Structured Finance Group, Telecopier: (212) 635-0466.
- **Section 11.4** <u>Alternative Notice</u>. If, because of the temporary or permanent suspension of publication of any newspaper or financial journal or suspension of the mails or for any other reason, the University, the Board or the Custodian shall be unable to give any notice required to be published or mailed by the provisions of this Bond Resolution, the University or the Custodian, as the case may be, shall give such notice in such other manner as in the judgment of the University or the Custodian shall most effectively approximate such publication thereof, and the giving of such notice in such manner shall for all purposes of this Bond Resolution be deemed to be in compliance with the requirement for the publication thereof.
- Section 11.5 <u>Effect of Partial Invalidity</u>. In case any one or more of the provisions of this Bond Resolution or of the Bonds issued hereunder shall for any reason be held to be illegal or invalid, such illegality or invalidity shall not affect any other provision of this Bond Resolution or of the Bonds, but this Bond Resolution and the Bonds shall be construed and enforced as if such illegal or invalid provision had not been contained therein. In case any covenant, stipulation, obligation or agreement contained in the Bonds or in this Bond Resolution shall for any reason be held to be in violation of law, then such covenant, stipulation, obligation or agreement shall be deemed to be the covenant, stipulation, obligation or agreement of the University to the full extent permitted by law.
- **Section 11.6** Governing Law. This Bond Resolution is adopted with the intent that the laws of the Commonwealth shall govern its construction without regard to conflict of law principles.
- Section 11.7 <u>Approval, Execution and Delivery of Necessary and Appropriate</u> <u>Documents</u>. The Preliminary Official Statement of the University relating to the offering of the Bonds for sale, and the distribution thereof by the Underwriters, are hereby approved, ratified and confirmed. The Chief Financial Officer and the University Treasurer are each authorized to "deem final" the Preliminary Official Statement as of its date, within the meaning of Rule 15c2-

12 of the Securities and Exchange Commission. The Chief Financial Officer and the University Treasurer are also each authorized to negotiate, execute and deliver and deem final, in necessary and appropriate form, the following documents:

- (a) a final Official Statement relating to the offering of the Bonds for sale, in substantially the form presented at the meeting at which this Resolution is adopted;
- (b) the Bond Purchase Agreement relating to the purchase of the Bonds, in substantially the form presented at the meeting at which this Resolution is adopted, such Bond Purchase Agreement to provide for a true interest cost not to exceed 2.50% per annum;
- (c) the University's Continuing Disclosure Agreement for the benefit of the Bondholders, in substantially the form presented at the meeting at which this Resolution is adopted; and
- (d) such other documents and instruments as he or she deems necessary or appropriate in connection with the issuance of the Bonds, so long as such documents and instruments do not conflict with the intent of this Bond Resolution.
- **Section 11.8** <u>Bond Delivery</u>. All directors, officers and employees of the University are hereby authorized to take all actions necessary to accomplish the delivery of the Bonds to purchasers thereof.
- **Section 11.9** <u>Repeal of Inconsistent Provisions</u>. Any prior resolutions or provisions of resolutions of the Board inconsistent with any provisions of this Bond Resolution are hereby repealed.

Section 11.10 Paying Agent/Registrar/Custodian Reliance and Other Matters. For purposes of this Section 11.10 only, the term "Paying Agent" shall refer to the Paying Agent, the Registrar and the Custodian. The Paying Agent undertakes to perform only such duties as are expressly set forth herein. The duties and responsibilities of the Paying Agent hereunder shall be determined solely by the express provisions of this Bond Resolution, and no further duties or responsibilities shall be implied. The Paying Agent shall not have any liability under, nor duty to inquire into the terms and provisions of, any agreement or instructions, other than as outlined in this Bond Resolution. The Paying Agent may consult with counsel and may rely conclusively and shall be protected in acting or refraining from acting upon any written notice, electronically transmitted communication, instruction or request furnished to it hereunder and believed by it to be genuine and to have been signed or presented by the proper party or parties. The Paying Agent shall be under no duty to inquire into or investigate the validity, accuracy or content of any such document. The Paying Agent shall have no duty to solicit any payments that may be due it hereunder. The Paying Agent shall not be liable for any action taken or omitted by it in good faith unless a court of competent jurisdiction determines that any loss to the University was the result of the Paying Agent's negligent or willful misconduct. The Paying Agent shall not incur any liability for following the instructions herein contained or expressly provided for, or written instructions given by the University. In the administration of its duties under this Bond Resolution, the Paying Agent may execute any of its powers and perform its duties hereunder directly or through agents or attorneys and may consult with counsel, accountants and other

skilled persons to be selected and retained by it. The Paying Agent shall not be liable for anything done, suffered or omitted in good faith by it in accordance with the advice or opinion of any such counsel, accountants or other skilled persons. The Paying Agent may resign and be discharged of its duties and obligations hereunder by giving notice in writing of such resignation specifying a date when such resignation shall take effect. Any corporation or association into which the Paying Agent in its individual capacity may be merged or converted or with which it may be consolidated, or any corporation or association resulting from any merger, conversion or consolidation to which the Paying Agent in its individual capacity shall be a party, or any corporation or association to which all or substantially all the corporate trust business of the Paying Agent in its individual capacity may be sold or otherwise transferred, shall be the Paying Agent hereunder without further act. The University covenants and agrees to pay the Paying Agent its fees and expenses (including reasonable attorney's fees, costs and expenses) as agreed upon by the University and the Paying Agent. Furthermore, the University shall pay the Paying Agent for any extraordinary services or expenses performed or incurred by the Paying Agent in connection with its duties under this Bond Resolution provided the University consents in writing prior to the performance of such services or the incurring of such expenses.

The Paying Agent shall not be responsible or liable for any failure or delay in the performance of its obligation under this Bond Resolution arising out of or caused, directly or indirectly, by circumstances beyond its reasonable control, including, without limitation, acts of God, earthquakes, fire, flood, hurricanes or other storms; wars, terrorism, similar military disturbances; sabotage; epidemic, riots, interruptions; loss or malfunctions of utilities, computer (hardware or software) or communications services; accidents; labor disputes; acts of civil or military authority or governmental action; it being understood that the Paying Agent shall use commercially reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as reasonably practicable under the circumstances.

The Paying Agent shall have the right to accept and act upon instructions, including funds transfer instructions ("Instructions") given pursuant to this Resolution and delivered using Electronic Means; provided, however, that the University shall provide to the Paying Agent an incumbency certificate listing Authorized Officers and containing specimen signatures of such Authorized Officers, which incumbency certificate shall be amended by the University whenever a person is to be added or deleted from the listing. If the University elects to give the Paving Agent Instructions using Electronic Means and the Paying Agent in its discretion elects to act upon such Instructions, the Paying Agent's understanding of such Instructions shall be deemed controlling. The University understands and agrees that the Paying Agent cannot determine the identity of the actual sender of such Instructions and that the Paying Agent shall conclusively presume that directions that purport to have been sent by an Authorized Officer listed on the incumbency certificate provided to the Paying Agent have been sent by such Authorized Officer. The University shall be responsible for ensuring that only Authorized Officers transmit such Instructions to the Paying Agent and that the University and all respective Authorized Officers are solely responsible to safeguard the use and confidentiality of applicable user and authorization codes, passwords and/or authentication keys upon receipt by the University. The Paying Agent shall not be liable for any losses, costs or expenses arising directly or indirectly from the Paying Agent's reliance upon and compliance with such Instructions notwithstanding such directions conflict or are inconsistent with a subsequent written instruction. The University agrees: (i) to assume all risks arising out of the use of Electronic Means to submit Instructions to

the Paying Agent, including without limitation the risk of the Paying Agent acting on unauthorized Instructions, and the risk of interception and misuse by third parties; (ii) that it is fully informed of the protections and risks associated with the various methods of transmitting Instructions to the Paying Agent and that there may be more secure methods of transmitting Instructions than the method(s) selected by the University; (iii) that the security procedures (if any) to be followed in connection with its transmission of Instructions provide to it a commercially reasonable degree of protection in light of its particular needs and circumstances; and (iv) to notify the Paying Agent immediately upon learning of any compromise or unauthorized use of the security procedures.

"Electronic Means" shall mean the following communications methods: e-mail, facsimile transmission, secure electronic transmission containing applicable authorization codes, passwords and/or authentication keys issued by the Paying Agent, or another method or system specified by the Paying Agent as available for use in connection with its services hereunder.

#### **EXHIBIT A**

No.	R-
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#### UNITED STATES OF AMERICA COMMONWEALTH OF VIRGINIA

## VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

# GENERAL REVENUE PLEDGE REFUNDING BOND SERIES 2015E

INTEREST RATE:	MATURITY DATE:	DATED DATE:	CUSIP:
%	June , 20	October, 2015	
REGISTERED OWNER	CEDE & CO.		
PRINCIPAL AMOUNT:		DOLLARS (\$	)

Virginia Polytechnic Institute and State University (the "University"), an educational institution established by the Commonwealth of Virginia, for value received, hereby promises to pay, solely from the revenues provided therefor, as hereinafter set forth, to the registered owner named above, on the maturity date set forth above (or earlier as hereinafter set forth), upon the presentation and surrender hereof, the principal sum set forth above and to pay, solely from such revenues, interest thereon from the date hereof at the rate per annum set forth above, until payment of said principal sum. Both the principal of and the interest on this Bond are payable in any coin or currency of the United States of America which on the respective dates of payment thereof is legal tender for the payment of public and private debts. The principal or redemption price of this Bond shall be payable, upon surrender of this Bond, at the office of The Bank of New York Mellon Trust Company, N.A., Pittsburgh, Pennsylvania, as Paying Agent, or at the designated corporate trust office of any successor Paying Agent appointed pursuant to the Bond Resolution (as hereinafter defined). Payment of interest on this Bond shall be made by check or draft mailed on the applicable Interest Payment Date to the registered owner as of the close of business on the 15th date of the month immediately preceding such Interest Payment Date (a "Record Date") at its address as it appears in the registration books of the Registrar appointed pursuant to the Bond Resolution. The term "Interest Payment Date" with respect to the Bonds means each June 1 and December 1, commencing June 1, 2016.

This Bond shall bear interest from the Interest Payment Date next preceding the date on which it is authenticated, unless this Bond is (a) authenticated before the first Interest Payment Date following the initial delivery of the Bonds, in which case it shall bear interest from its dated date, or (b) authenticated upon an Interest Payment Date, in which case it shall bear interest from such Interest Payment Date; provided, however, that if at the time of authentication of this Bond interest is in default, this Bond shall bear interest from the date to which interest has been paid. Interest on this Bond shall be computed on the basis of a 360-day year of twelve 30-day months.

The University shall not be obligated to pay the principal of or interest on this Bond except from the Pledged General Revenues of the University and other legally available moneys, all as provided in the Bond Resolution. "Pledged General Revenues" are all of the revenues now or hereafter lawfully available to the University which are not required by law, by binding contract entered into prior to the adoption of the Bond Resolution or, in certain circumstances described in the Bond Resolution, by binding contract entered into subsequent to the date of the Bond Resolution, to be devoted to some other purpose. This Bond and the interest hereon shall not be deemed to constitute a debt or liability of the Commonwealth of Virginia, legal, moral or otherwise. Neither the Commonwealth of Virginia nor the University shall be obligated to pay the principal of or interest on this Bond or other costs incident hereto except from the sources noted above, and neither the faith and credit nor the taxing power of the Commonwealth of Virginia are pledged to the payment of the principal of or interest on this Bond or other costs incident hereto.

This Bond is one of a duly authorized issue of Bonds of the University aggregating ) in principal amount, known as "General DOLLARS (\$ Revenue Pledge Refunding Bonds, Series 2015E" (the "Bonds") issued pursuant to a bond resolution adopted by the Board of Visitors of the University (the "Board") on August 31, 2015 (the "Bond Resolution"). This Bond is issued and the Bond Resolution was adopted under and pursuant to the Constitution and laws of the Commonwealth of Virginia, particularly Chapter 4.10, Title 23, Code of Virginia of 1950, as amended (the "Act") to refinance the costs of certain capital improvements of the University and to refund certain outstanding indebtedness of the University. Reference is hereby made to the Bond Resolution for the provisions, among others, with respect to the custody and application of the proceeds of bonds issued under the Bond Resolution, the funds charged with and pledged to the payment of the interest on and the principal of the Bonds, the nature and extent of the security, the terms and conditions on which the Bonds are or may be issued, the rights, duties and obligations of the University and the rights of the holders of the Bonds. Capitalized terms not defined herein shall be as defined in the Bond Resolution. By the acceptance of this Bond, the Holder hereof assents to all of the provisions of the Bond Resolution.

This Bond is not subject to optional redemption except as set forth in this paragraph. This Bond is subject to redemption in whole or in part on any date, at the option of the University, from the proceeds of casualty insurance or condemnation awards, at a redemption price equal to 100% of the principal amount thereof to be redeemed, without premium, plus accrued interest to the redemption date, if all or any part of the Project is damaged, destroyed or taken through the exercise of the power of eminent domain and the University has determined not to use such proceeds to replace or rebuild the damaged, destroyed or taken property. In the event of a redemption in part pursuant to this paragraph, the University shall redeem the Bonds from each maturity then outstanding, to the extent practicable, in the proportion that the principal amount of the Bonds of such maturity bears to the total principal amount of the Bonds then outstanding.

Subject to applicable procedures of the Securities Depository while the Bonds are held in book-entry only form by the Securities Depository, and except as otherwise provided in the case of extraordinary optional redemption of the Bonds in accordance with the immediately preceding paragraph, if less than all of the Bonds are to be called for redemption, the Bonds to be redeemed

shall be selected by the University in such manner as the University in its discretion may determine.

If any of the Bonds or portions thereof are called for redemption, the Paying Agent shall mail a notice of the call for redemption, identifying the Bonds or portions thereof to be redeemed, not less than 30 nor more than 60 days prior to the redemption date, to the registered owner of each Bond to be redeemed, at its address as it appears on the registration books kept by the Registrar. Provided funds for their redemption are on deposit at the place of payment on the redemption date, all Bonds so called for redemption shall cease to bear interest on such date, shall no longer be secured by the Pledged General Revenues and shall not be deemed to be outstanding under the terms of the Bond Resolution. If a portion of this Bond is called for redemption, a new Bond in principal amount equal to the unredeemed portion hereof will be issued to the registered owner upon the surrender hereof.

This Bond is transferable by the registered owner, in person or by its attorney duly authorized in writing, at the designated office of the Registrar, upon presentation of a written instrument of transfer and surrender of this Bond to the Registrar for cancellation. Upon the transfer, a new Bond or Bonds of the same aggregate principal amount, maturity date and interest rate will be issued to the transferee. No transfer will be effective unless represented by such surrender and reissue. This Bond may also be exchanged at the designated office of the Registrar for a new Bond or Bonds of the same aggregate principal amount, maturity date and interest rate without transfer to a new registered owner. Exchanges and transfers will be without expense to the holder except for applicable taxes or other governmental charges, if any. The Registrar shall not be required to transfer or exchange any Bond selected or called for redemption pursuant to the provisions hereof or from a Record Date through the next succeeding Interest Payment Date. All Bonds delivered in exchange or transfer shall be dated so that neither gain nor loss results from the transfer or exchange.

The University, the Paying Agent and the Registrar may treat the registered owner as the absolute owner of this Bond for all purposes, notwithstanding any notice to the contrary.

Neither the members of the Board nor any person executing this Bond are liable personally hereon or subject to any personal liability or accountability by reason of the issuance hereof.

This Bond will not be valid until the Certificate of Authentication has been signed by the Registrar.

The holder of this Bond shall have no right to enforce the provisions of the Bond Resolution or to institute action to enforce the covenants therein, or to take any action with respect to any Event of Default under the Bond Resolution, or to institute, appear in or defend any suit or other proceeding with respect thereto, except as provided in the Bond Resolution.

All acts, conditions and things required by the Constitution and laws of the Commonwealth of Virginia and by the rules and regulations of the Board to happen, exist and be performed precedent to and in the issuance of this Bond have happened, exist and have been performed as so required.

IN WITNESS WHEREOF, the Virginia Polytechnic Institute and State University has caused this Bond to be issued and caused this Bond to bear the manual or facsimile signatures of its President and the University's Chief Financial Officer or the University Treasurer and its official seal to be impressed or imprinted hereon, all as of the dated date hereof.

[SEAL]	
FOL: CP: 1 O.CC JET 1	D :1 / CV' : :
[Chief Financial Officer][Treasurer]	President of Virginia
of Virginia Polytechnic	Polytechnic Institute and
Institute and State	State University

University

# CERTIFICATE OF AUTHENTICATION

This Bond is one of the Bonds described in the within-mentioned Bond Resolution.

Date of Authentication: , 2015	THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., as Registrar
	, , , <u>C</u>
	Authorized Signatory

# FORM OF ASSIGNMENT

FOR VALUE RECEIVED the unders	igned hereby sells, assigns and transfers unto
[Please print or typewrite name and add	dress, including zip code, of Transferee]
	OCIAL SECURITY OR JMBERS OF TRANSFEREE
_	nd hereby irrevocably constitutes and appoints attorney to transfer the within
Bond on the books kept for registration thereof,	with full power of substitution in the premises.
Dated:	
	Registered Owner
	The signature above must correspond to the name of the Registered Owner as it appears on the front of this Bond in every particular, without alteration or enlargement or any change whatsoever.
Signature Guaranteed:	
Notice: Signature(s) must be guaranteed by an approved eligible guarantor institution, an institution which is a participant in a Securities Transfer Association recognized signature guarantee program	
#26186662v6 206702.024	

#### NEW ISSUE-BOOK ENTRY ONLY

RATINGS:	S&P:
M	oody's:
(See "Ratin	gs" herein)

In the opinion of Bond Counsel, under current law and subject to conditions described in the section herein "TAX MATTERS," interest on the Series 2015 Bonds (a) will not be included in gross income for federal income tax purposes, (b) will not be a specific item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporations and (c) will be exempt from income taxation by the Commonwealth of Virginia. Such interest may be included in the calculation of a corporation's alternative minimum taxable income and a holder may be subject to other federal income tax consequences as described in the section herein "TAX MATTERS."

# \$____* VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY Revenue Bonds, Series 2015

consisting of

Dormitory and Dining Hall System and General Revenue Pledge Bonds, Series 2015A

Utility System and
General Revenue Pledge Bonds,
Series 2015D

Athletic Facilities System and General Revenue Pledge Bonds, Series 2015B



University Services System and General Revenue Pledge Bonds, Series 2015C

S_____ General Revenue Pledge Refunding Bonds, Series 2015E

Due: June 1, as shown below

**Dated: Date of Delivery** 

The Series 2015 Bonds are being issued by the Virginia Polytechnic Institute and State University (the "University") (i) to refund certain outstanding indebtedness of the University, (ii) to finance and refinance, in part, the cost of constructing and equipping additions and improvements to the University's Upper Quad Residential Facilities, Indoor Athletic Training Facility, South Recreation Field and Lane Substation and (iii) to pay the costs of issuance relating to the Series 2015 Bonds. See "INTRODUCTION," "THE PLAN OF FINANCE" and "ESTIMATED SOURCES AND USES OF FUNDS."

The Series 2015 Bonds shall be issued in fully registered form in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"), which will act as securities depository for the Series 2015 Bonds. Individual purchases of beneficial ownership in the Series 2015 Bonds will be made in book-entry form only and individual purchasers will not receive physical delivery of bond certificates. Interest on the Series 2015 Bonds is payable on June 1, 2016, and semiannually thereafter on each June 1 and December 1. Payments of principal of, premium, if any, and interest on the Series 2015 Bonds will be made to Cede & Co., as nominee for DTC, for disbursement to DTC participants, to be disbursed subsequently to the beneficial owners of the Series 2015 Bonds. The Series 2015 Bonds are subject to optional, mandatory sinking fund and extraordinary redemption as described herein. See "THE SERIES 2015 BONDS."

THE SERIES 2015 BONDS AND THE INTEREST THEREON ARE LIMITED OBLIGATIONS OF THE UNIVERSITY PAYABLE EXCLUSIVELY FROM PLEDGED GENERAL REVENUES (AS HEREIN DEFINED) AND, AS TO CERTAIN OF THE SERIES 2015 BONDS, OTHER REVENUES AND FUNDS PLEDGED TO THAT PARTICULAR SERIES. THE SERIES 2015 BONDS AND THE INTEREST THEREON SHALL NOT BE DEEMED TO CONSTITUTE A DEBT OR LIABILITY OF THE COMMONWEALTH OF VIRGINIA, LEGAL, MORAL OR OTHERWISE. NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE COMMONWEALTH OF VIRGINIA ARE PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF OR INTEREST ON THE SERIES 2015 BONDS OR OTHER COSTS INCIDENT THERETO. NEITHER THE COMMONWEALTH OF VIRGINIA NOR THE UNIVERSITY SHALL BE OBLIGATED TO PAY THE PRINCIPAL OF OR INTEREST ON THE SERIES 2015 BONDS OR OTHER COSTS INCIDENT THERETO EXCEPT FROM THE SOURCES NOTED ABOVE. See "SECURITY FOR THE SERIES 2015 BONDS."

The Series 2015 Bonds are offered for delivery when, as and if issued and subject to the approval of Troutman Sanders LLP, Richmond, Virginia, Bond Counsel, and certain other conditions. Certain legal matters will be passed upon for the University by Kay Heidbreder, Esquire, Associate General Counsel to the University and Special Assistant Attorney General, and for the Underwriters by their counsel, McGuireWoods LLP, Richmond, Virginia. It is expected that the Series 2015 Bonds will be delivered on or about October ___, 2015.

This cover page contains information for quick reference only. It is not a summary of the Official Statement. Investors must read the entire Official Statement to obtain information essential to the making of an informed investment decision.

BofA Merrill Lynch

**Morgan Stanley** 

**Wells Fargo Securities** 

Dated:	,	2015
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**Davenport & Company LLC** 

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^{*} Preliminary, subject to change.

# Maturities, Amounts, Coupons and Yields

	\$* Do	rmitory and Din	ing Hall System	and General Reve	nue Pledge Bonds	s, Series 2015A	
			\$* Seria	al Series 2015A Bonds			
Maturity*	Amount*	<u>Coupon</u>	Yield	<u>Maturity*</u>	Amount*	<u>Coupon</u>	Yield
	\$*	_% Term Series 2015	A Bonds Due June 1,	20,* priced to yield	% at an approximate	price of%	
	\$	* Athletic Facili	ties System and	General Revenue	Pledge Bonds, Sei	ries 2015B	
	\$*	% Term Series 2015I	Bonds Due June 1,	20,* priced to yield	% at an approximate	price of%	
	\$·	* University Serv	•	General Revenue al Series 2015C Bonds	Pledge Bonds, Se	eries 2015C	
Maturity*	Amount*	<u>Coupon</u>	<u>Yield</u>	<u>Maturity*</u>	Amount*	<u>Coupon</u>	<u>Yield</u>
	\$*	_% Term Series 20150	C Bonds Due June 1, 2	20,* priced to yield	% at an approximate	price of%	

^{*} Preliminary, subject to change.

	\$	* Utility S	ystem and Gene	ral Revenue Pledge	e Bonds, Series 20	015D	
			\$* Seri	al Series 2015D Bonds			
Maturity*	Amount*	Coupon	<u>Yield</u>	Maturity*	Amount*	<u>Coupon</u>	Yield
	\$ * .	% Term Series 2015	D Bonds Due June 1.	20,* priced to yield	% at an approximate	e price of . %	
	¥	_/0 101111 501105 2015	g gende gwe vane 1,			, p.130 or	
	5	§* Gen	eral Revenue Pl	edge Refunding Bo	nds, Series 2015I	E	
			\$* Ser	al Series 2015E Bonds			
Maturity*	Amount*	Coupon	Yield	Maturity*	Amount*	<u>Coupon</u>	Yield
	\$ *.	% Term Series 2015]	E Bonds Due June 1.	20,* priced to yield	% at an approximate	e price of . %	

This Official Statement is provided in connection with the sale of the Series 2015 Bonds and may not be reproduced or used, in whole or in part, for any other purpose. The information contained in this Official Statement has been obtained from the University and other sources that are believed to be reliable, but is not guaranteed as to accuracy or completeness by, and is not to be construed as a representation of, the Underwriters.

No dealer, broker, salesman or other person has been authorized to give any information or to make any representations other than those contained in this Official Statement, and, if given or made, such information or representations must not be relied upon as having been authorized by the University or the Underwriters. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of the Series 2015 Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale. The information and expressions of opinion herein speak as of their date except where specifically noted otherwise and are subject to change without notice, and neither the delivery of this Official Statement nor any sale made hereunder shall under any circumstances create any implication that there has been no change in the affairs of the University since the date hereof.

The prices and other terms respecting the offering and sale of the Series 2015 Bonds may be changed from time to time by the Underwriters after such Series 2015 Bonds are released for sale, and such Series 2015 Bonds may be offered and sold to certain dealers (including dealers depositing Series 2015 Bonds into investment accounts) and others at prices lower than the initial public offering prices. In connection with the offering of the Series 2015 Bonds, the Underwriters may over allot or effect transactions that stabilize or maintain the market prices of the Series 2015 Bonds at a level above those which might otherwise prevail in the open market. Such stabilizing, if commenced, may be discontinued at any time.

The Series 2015 Bonds are exempt from registration under the Securities Act of 1933, as amended, and from registration under the securities laws of the Commonwealth of Virginia.

The Underwriters have provided the following sentence for inclusion in this Official Statement. The Underwriters have reviewed the information in this Official Statement in accordance with, and as part of, their respective responsibilities to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information.

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# VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY Revenue Bonds, Series 2015

consisting of

Dormitory and Dining Hall System and General Revenue Pledge Bonds, Series 2015A

Athletic Facilities System and General Revenue Pledge Bonds, Series 2015B University Services System and General Revenue Pledge Bonds, Series 2015C

Utility System and
General Revenue Pledge Bonds,
Series 2015D

General Revenue Pledge Refunding Bonds, Series 2015E

#### INTRODUCTION

This Official Statement, including the cover page and the Appendices, is provided to furnish information in connection with the issuance and sale by Virginia Polytechnic Institute and State University (the "University") of its \$_____* Dormitory and Dining Hall System and General Revenue Pledge Bonds, Series 2015A (the "Series 2015A Bonds"), its \$_____* Athletic Facilities System and General Revenue Pledge Bonds, Series 2015B (the "Series 2015B Bonds"), its \$_____* University Services System and General Revenue Pledge Bonds, Series 2015C (the "Series 2015C Bonds"), its \$_____* Utility System and General Revenue Pledge Bonds, Series 2015D (the "Series 2015D Bonds"), and its \$_____* General Revenue Pledge Refunding Bonds, Series 2015E (the "Series 2015E Bonds," and together with the Series 2015A Bonds, the Series 2015B Bonds, the Series 2015C Bonds, and the Series 2015D Bonds, the "Series 2015 Bonds,").

The University is an educational institution classified and constituted pursuant to Chapter 11, Title 23, Code of Virginia of 1950, as amended (the "Act"), as a public body and a governmental instrumentality for the dissemination of education. Pursuant to the Restructured Higher Education Financial and Administrative Operations Act, Chapter 4.10, Title 23 of the Code of Virginia of 1950, as amended (the "Restructuring Act"), the University operates under a qualifying management agreement (the "Management Agreement") with the Commonwealth of Virginia (the "Commonwealth").

The Series 2015 Bonds will be issued pursuant to powers granted by the Restructuring Act and the Management Agreement. In addition, the Series 2015A Bonds will be issued pursuant to the terms of a resolution adopted by the Board of Visitors of the University (the "Board") on August 31, 2015 and as supplemented by a series resolution relating to the Series 2015A Bonds, adopted by the Board on August 31, 2015 (together, the "Series 2015A Bonds Resolution"). The Series 2015B Bonds will be issued pursuant to the terms of a resolution adopted by the Board on August 31, 2015 and as supplemented by a series resolution relating to the Series 2015B Bonds, adopted by the Board on August 31, 2015 (together, the "Series 2015B Bonds Resolution"). The Series 2015C Bonds will be issued pursuant to the terms of a resolution adopted by the Board on August 31, 2015 and as supplemented by a series resolution relating to the Series 2015C Bonds, adopted by the Board on August 31, 2015 (together, the "Series 2015C Bonds Resolution"). The Series 2015D Bonds will be issued pursuant to the terms of a resolution adopted by the Board on August 31, 2015 and as supplemented by a series resolution relating to the Series 2015D Bonds, adopted by the Board on August 31, 2015 (together, the "Series 2015D Bonds Resolution"). The Series 2015E Bonds will be issued pursuant to the terms of a resolution adopted by the Board on August 31, 2015 (the "Series 2015E Bonds Resolution" and together with the Series 2015A Bonds Resolution, the Series 2015B Bonds Resolution, the Series 2015C Bonds Resolution and the Series 2015D Bonds Resolution, the "Resolutions"). The Series 2015A Bonds Resolution, the Series 2015B Bonds Resolution, the Series 2015C Bonds Resolution and the Series 2015D Bonds Resolution will be referred to herein as the "Systems Resolutions."

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^{*} Preliminary, subject to change.

Each Resolution authorizes The Bank of New York Mellon Trust Company, N.A., as paying agent for the Series 2015 Bonds (the "Paying Agent") to hold certain funds and to take certain actions as Paying Agent in accordance with the Act.

The Series 2015A Bonds are secured by and payable from the Net Revenues (as defined in Appendix C) of the University's dormitory and dining hall system (the "Dormitory and Dining Hall System") and are further secured by Pledged General Revenues of the University. The Series 2015B Bonds are secured by and payable from the Net Revenues (as defined in Appendix D) of the University's athletic facilities system (the "Athletic Facilities System") and are further secured by Pledged General Revenues of the University. The Series 2015C Bonds are secured by and payable from the Net Revenues (as defined in Appendix E) of the University's services system (the "University Services System") and are further secured by Pledged General Revenues of the University. The Series 2015D Bonds are secured by and payable from the Net Revenues (as defined in Appendix F) of the University's utility system (the "Utility System") and are further secured by Pledged General Revenues of the University. The Series 2015E Bonds are secured by and payable from Pledged General Revenues of the University. See "SECURITY FOR THE SERIES 2015 BONDS" herein and "FINANCIAL INFORMATION - The Systems" in Appendix A. The Dormitory and Dining Hall System, the Athletic Facilities System, the University Services System and the Utility System will collectively be referred to herein as the "Systems" and each individually as the "System".

While all Series 2015 Bonds are secured by and have an equal right to payment from Pledged General Revenues of the University, (i) the Series 2015A Bonds are entitled to be paid from Net Revenues of the Dormitory and Dining Hall System prior to all other Series 2015 Bonds, (ii) the Series 2015B Bonds are entitled to be paid from Net Revenues of the Athletic Facilities System prior to all other Series 2015 Bonds, (iii) the Series 2015C Bonds are entitled to be paid from Net Revenues of the University Services System prior to all other Series 2015Bonds and (iv) the Series 2015D Bonds are entitled to be paid from Net Revenues of the Utility System prior to all other Series 2015 Bonds.

The University has previously (i) issued bonds secured by a pledge of Pledged General Revenues identical to the pledge securing the Series 2015 Bonds, all of which will be redeemed with moneys provided by the University or refunded with the proceeds of the Series 2015 Bonds, and (ii) pledged certain of its Pledged General Revenues derived from specific facilities to the payment of other indebtedness of the University, and may do so in the future. See "SECURITY FOR THE SERIES 2015 BONDS" herein and "FINANCIAL INFORMATION – Indebtedness and other Obligations - Outstanding Obligations" and "- Debt Service Requirements" in Appendix A.

See Appendix A for a description of the University. Financial statements of the University for the fiscal year ended June 30, 2014, audited by the Auditor of Public Accounts of the Commonwealth of Virginia, are attached as Appendix B hereto.

Attached hereto as Appendices C, D, E, F and G are summaries of the Series 2015A Bonds Resolution, the Series 2015B Bonds Resolution, the Series 2015C Bonds Resolution, the Series 2015D Bonds Resolution and the Series 2015E Bonds Resolution, respectively. Such summaries do not purport to be complete or to describe all material provisions of such Resolutions. Reference is hereby made to such Resolutions, copies of which are on file with the Paying Agent, for a complete statement of the rights, duties and obligations of the University.

#### THE PLAN OF FINANCE

#### **New Money Projects**

The Series 2015A Bonds will be used to finance and refinance, in part, the construction and furnishing of two residential facilities, which will house approximately 1,100 student beds (the "Upper Quad Residential Facilities"). Each residential facility will be approximately 97,000 gross square feet.

The Series 2015B Bonds will be used to finance, in part, the construction of an approximate 120,000 gross square foot athletic field house facility programmed for multipurpose activities and sized to accommodate sufficient length, width and height necessary for football practice work (the "Indoor Athletic Training Facility").

The Series 2015C Bonds will be used to finance and refinance the resurfacing of the nine acres of the south recreation field with synthetic turf and new infrastructure for the creation of multiple fields and to allow for ongoing maintenance (the "South Recreation Field").

The Series 2015D Bonds will be used to finance improvements to the Lane Substation to allow for additional electricity distribution capacity to support ongoing development of both the University's campus and corporate research center (the "Lane Substation").

#### **Refunding of Series 2004 Bonds**

The Series 2015E Bonds will be used to refund the outstanding principal amount of the University's General Revenue Pledge Refunding Bonds, Series 2004A (the "Series 2004A Bonds") maturing, or subject to mandatory sinking fund redemption, on June 1, in the years 2017 to 2020, inclusive. The Series 2004A Bonds were issued for the purpose of refunding a portion of the outstanding principal amount of the University's General Revenue Pledge Bonds, Series 1996A, which were issued to finance, in part, the following projects: (i) construction, expansion and equipment of a 108,000 square foot engineering facility for use as classrooms, laboratories and office space and a 42,000 square foot addition to the existing architectural facility, (ii) the purchase and installation of a coal fired boiler with 100,000 pounds/hour steam generating capacity and the construction of a 7,200 square foot addition to the University's existing power plant to accommodate the new boiler and accessories, and (iii) renovations of the Donaldson Brown Continuing Education Center and Alumni Hall.

#### **Concurrent Redemption**

Concurrently with the refunding described above and the issuance of the Series 2015 Bonds, the University will use certain available funds to optionally redeem the outstanding principal amount of the Series 2004A Bonds maturing on June 1, 2016, and the outstanding principal amount of the University's Dormitory and Dining Hall System and General Revenue Pledge Refunding Bonds, Series 2004B, University Services System and General Revenue Pledge Refunding Bonds, Series 2004C and Athletic Facilities System and General Revenue Pledge Bonds, Series 2004D (collectively, the "Series 2004B/C/D Bonds"), all of which mature on June 1, 2016.

#### ESTIMATED SOURCES AND USES OF FUNDS

The University's estimate of the sources and uses of funds in connection with the issuance of the Series 2015 Bonds is set forth below.

Sources of Funds	
Par Amount of Series 2015 Bonds	\$
Transfers of Refunded Bonds Debt Service	
[Net] Original Issue [Premium/Discount]	
Total Sources of Funds	<u>\$</u>
Uses of Funds	
Upper Quad Residential Facilities ⁽¹⁾	\$
Indoor Athletic Training Facility	
South Recreation Field Surface Replacement ⁽¹⁾	
Lane Substation Expansion.	
Refunded Series 2004A Bonds	
Underwriters' Discount	
Costs of Issuance and Other	
Total Uses of Funds	\$

⁽I) A portion of the proceeds of the Series 2015 Bonds will be used to repay a portion of the University's commercial paper that was used to provide interim financing for Upper Quad Residential Facilities and the South Recreation Field Surface Replacement. For additional information regarding the University's commercial paper program see "FINANCIAL INFORMATION – Indebtedness and other Obligations" in Appendix A.

#### THE SERIES 2015 BONDS

#### General

The Series 2015 Bonds shall be issued in the principal amounts shown on the inside cover pages hereof, as fully registered bonds, and, when issued, will be registered as to principal and interest in the name of Cede & Co., as nominee for DTC, or otherwise as hereinafter described. Individual purchases of beneficial ownership interests in the Series 2015 Bonds will be made only in book-entry form and individual purchasers will not receive certificates representing their interests in Series 2015 Bonds so purchased. If the book-entry system is discontinued, bond certificates will be delivered as described in the Resolutions, and Beneficial Owners, as defined below, will become the registered owners (the "Bondholders"). The Series 2015 Bonds shall be dated and shall bear interest from their date of delivery, and shall mature on June 1 in the years and amounts as set forth on the inside cover pages hereof. The principal or redemption price of the Series 2015 Bonds shall be payable, upon surrender of the Series 2015 Bonds, at the office of the Paying Agent. Payment of interest on the Series 2015 Bonds at the rates per annum shown on the inside cover pages hereof shall be made by check or draft mailed on the Interest Payment Date to the registered owner as of the close of business on the 15th day of the month immediately preceding such Interest Payment Date (the "Record Date") at his address as it appears on the registration books of the Paying Agent. The term "Interest Payment Date" means each June 1 and December 1, commencing June 1, 2016 (unless such date is not a Business Day, in which event payment of interest shall be made on the next succeeding Business Day). Interest shall be calculated on the basis of a 360-day year consisting of twelve 30-day months. The Series 2015 Bonds will be issuable in the denominations of \$5,000 and multiples thereof.

#### **Book-Entry System**

The description that follows of the procedures and recordkeeping with respect to beneficial ownership interests in the Series 2015 Bonds, payments of principal of and premium, if any, and interest on the Series 2015 Bonds to The Depository Trust Company ("DTC"), New York, New York, its nominee, Direct and Indirect Participants (as defined below) or Beneficial Owners, confirmation and transfer of beneficial ownership interests in the Series 2015 Bonds and other bond-related transactions by and between DTC, Direct and Indirect Participants and Beneficial Owners is based solely on information furnished by DTC. Neither the University nor the Underwriters assume any responsibility for the accuracy or adequacy of the information included in such description.

DTC will act as securities depository for the Series 2015 Bonds. The Series 2015 Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee), or such other name as may be requested by an authorized representative of DTC. One fully-registered bond certificate will be issued for each maturity of each series of the Series 2015 Bonds, each in the aggregate principal amount of such maturity, and will be deposited with DTC.

DTC, the world's largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments from over 100 countries that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions, in deposited securities through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). DTC has a Standard & Poors rating of AA+. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com.

Purchases of Series 2015 Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Series 2015 Bonds on DTC's records. The ownership interest of each actual purchaser of each Series 2015 Bond ("Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Series 2015 Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the Series 2015 Bonds, except in the event that use of the book-entry system for the Series 2015 Bonds is discontinued.

To facilitate subsequent transfers, all Series 2015 Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of Series 2015 Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Series 2015 Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Series 2015 Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of the Series 2015 Bonds may wish to take certain steps to augment transmission to them of notices of significant events with respect to the Series 2015 Bonds, such as redemptions, tenders, defaults and proposed amendments to the financing documents. For example, Beneficial Owners of the Series 2015 Bonds may wish to ascertain that the nominee holding the Series 2015 Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the Paying Agent, and request that copies of the notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the Series 2015 Bonds within a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Series 2015 Bonds unless authorized by a Direct Participant in accordance with DTC's MMI procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the University as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Series 2015 Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal and interest payments on the Series 2015 Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts, upon DTC's receipt of funds and corresponding detail information from the University or the Paying Agent, on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the University or the Paying Agent, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the University or the Paying Agent, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as securities depository with respect to the Series 2015 Bonds at any time by giving reasonable notice to the University or the Paying Agent. Under such circumstances, in the event that a successor depository is not obtained, the Series 2015 Bonds are required to be printed and delivered.

The University may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository). In that event, Series 2015 Bond certificates will be printed and delivered to DTC.

The above information concerning DTC and DTC's book-entry system has been obtained from sources that the University believes to be reliable, but the University takes no responsibility for the accuracy thereof. Neither the University nor the Paying Agent, will have any responsibility or obligation to DTC participants, beneficial owners or other nominees of such beneficial owners for (i) sending transaction statements; (ii) maintaining, supervising or reviewing, or the accuracy of, any records maintained by DTC or any DTC participant or other nominees of such beneficial owners; (iii) payment or the timeliness of payment by DTC to any DTC participant, or by any DTC participant or other nominees of beneficial owners to any beneficial owner, of any amount due in respect of the principal of or redemption premium, if any, or interest on book-entry Series 2015 Bonds; (iv) delivery or timely delivery by DTC to any DTC participant, or by any DTC participant or other nominees of beneficial owners to any beneficial owners, of any notice (including notice of redemption) or other communication which is required or permitted under the terms of the Resolutions to be given to holders or owners of book-entry Series 2015 Bonds; (v) the selection of the beneficial owners to receive payment in the event of any partial redemption of book-entry Series 2015 Bonds, or (vi) any action taken by DTC or its nominee as the registered owner of the book-entry Series 2015 Bonds.

So long as Cede & Co. is the registered owner of the Series 2015 Bonds, reference herein to the registered owners of the Series 2015 Bonds (other than under the section herein "TAX MATTERS") shall mean Cede & Co., as aforesaid, and shall not mean the Beneficial Owners of the Series 2015 Bonds.

#### **Redemption of Series 2015 Bonds**

The Series 2015 Bonds may not be called for redemption except as described below.

**Optional Redemption.** Except with respect to the Series 2015E Bonds, the Series 2015 Bonds maturing on or after June 1, 20__, are subject to redemption at the option of the University, in whole or in part (in any integral multiple of \$5,000) on any date not earlier than June 1, 20__, upon payment of the principal amount of Series 2015 Bonds to be redeemed, plus interest accrued to the redemption date.

The Series 2015E Bonds are not subject to optional redemption prior to maturity.

Year

**Mandatory Redemption.** (a) The Series 2015A Bonds maturing on June 1, 20__ shall be subject to mandatory redemption by the University at a redemption price of 100% of the principal amount thereof, plus accrued interest to the redemption date, on June 1 in each of the years and amounts as follows:

Principal Amount

(b) The Series 2015B Bonds maturing on June 1, 20_ shall be subject to mandatory redemption by the University at a redemption price of 100% of the principal amount thereof, plus accrued interest to the redemption date, on June 1 in each of the years and amounts as follows:

Year Principal Amount

(c) The Series 2015C Bonds maturing on June 1, 20_ shall be subject to mandatory redemption by the University at a redemption price of 100% of the principal amount thereof, plus accrued interest to the redemption date, on June 1 in each of the years and amounts as follows:

Year

Principal Amount

(d) The Series 2015D Bonds maturing on June 1, 20_ shall be subject to mandatory redemption by the University at a redemption price of 100% of the principal amount thereof, plus accrued interest to the redemption date, on June 1 in each of the years and amounts as follows:

Year

Principal Amount

(e) At its option, to be exercised on or before the fortieth day next preceding any applicable sinking fund redemption date, the University may receive a credit against its mandatory sinking fund redemption obligation for the applicable Series 2015 Bonds which prior to such date have been purchased by the University and presented to the Paying Agent for cancellation or redeemed (otherwise than through the operation of the sinking fund) and canceled by the Paying Agent and, in either case, not theretofore applied as a credit against any sinking fund redemption obligation.

Each Series 2015A Bond, Series 2015B Bond, Series 2015C Bond or Series 2015D Bond so purchased, delivered or previously redeemed shall be credited by the Paying Agent at 100% of the principal amount thereof against the obligation of the University on such sinking fund redemption date to redeem Series 2015A Bonds, Series 2015B Bonds, Series 2015C Bonds or Series 2015D Bonds, as appropriate. Any excess over such obligation shall be credited against applicable future sinking fund redemption obligations, or deposits with respect thereto, in such order of maturity as shall be determined by the University, and the principal amount of such Series 2015 Bonds to be redeemed by operation of the sinking fund shall be accordingly reduced.

#### **Extraordinary Redemption**

The Series 2015 Bonds shall be subject to redemption in whole or in part on any date, at the option of the University, from the proceeds of casualty insurance or condemnation awards, at a redemption price equal to 100% of the principal amount thereof to be redeemed, without premium, plus accrued interest to the redemption date, if all or any part of the respective Project (as defined under the applicable Resolution) financed or refinanced with the applicable Series 2015 Bonds is damaged or destroyed or taken through the exercise of the power of eminent domain and an Authorized Officer has delivered a certificate to the Custodian to the effect that the University has determined not to use such proceeds to replace or rebuild the damaged, destroyed or taken property. In the event of an extraordinary redemption in part, the University shall redeem the applicable Series 2015 Bonds from each maturity then outstanding, to the extent practicable, in the proportion that the principal amount of the applicable Series 2015 Bonds of such maturity bears to the total principal amount of the applicable Series 2015 Bonds then outstanding.

#### **Selection of Series 2015 Bonds**

Subject to the requirements of the Resolutions, and except as otherwise provided in the case of extraordinary redemption, if less than all of the Series 2015A Bonds, the Series 2015B Bonds, the Series 2015C Bonds, or the Series 2015D Bonds are to be called for redemption, such Series 2015 Bonds to be redeemed shall be selected by the University in such manner as the University in its discretion may determine.

#### **Notice of Redemption**

During the period that DTC or the DTC nominee is the registered holder of the Series 2015 Bonds, the Paying Agent, will not be responsible for mailing notices of redemption to the Beneficial Owners of the Series 2015 Bonds. See "THE SERIES 2015 BONDS - Book-Entry System" above.

Whenever Series 2015 Bonds are to be redeemed under the provisions of any of the Resolutions, the Paying Agent, shall, not less than 30 days nor more than 60 days prior to the redemption date, mail notice of redemption to all registered owners of all Series 2015 Bonds to be redeemed at their registered addresses. Any such notice of redemption shall be given in the name of the University, shall identify the Series 2015 Bonds to be redeemed, shall specify the redemption date and the redemption price, and shall state that on the redemption date the Series 2015 Bonds called for redemption will be payable at the office of the Paying Agent, and that from that date interest will cease to accrue.

If at the time of mailing of notice of any optional redemption the University shall not have caused to be deposited with the Paying Agent money sufficient to redeem all the Series 2015 Bonds called for redemption, such notice may state that it is conditional in that it is subject to the deposit of such moneys with the Paying Agent not later than the redemption date, and such notice shall be of no effect unless such moneys are so deposited.

#### **Effect of Calling for Redemption**

On the date designated for redemption, notice having been mailed in the manner and under the conditions hereinabove provided and moneys for payment of the redemption price being held in separate accounts by the Paying Agent in trust for the holders of the Series 2015 Bonds to be redeemed, all as provided in the applicable Resolution, the Series 2015 Bonds so called for redemption shall become and be due and payable at the redemption price provided for redemption of such Series 2015 Bonds on such date, interest on the Series 2015 Bonds so called for redemption shall cease to accrue, such Series 2015 Bonds shall cease to be entitled to any benefit or security under the applicable Resolution and the holders or registered owners of such Series 2015 Bonds shall have no rights with respect thereto except to receive payment of the redemption price.

#### **SECURITY FOR THE SERIES 2015 BONDS**

Pursuant to the Resolutions, the University is required to pay the principal of, interest on and premium, if any, on the Series 2015 Bonds as they become due upon redemption, acceleration, maturity or otherwise from the moneys pledged to such payment. Such obligation to make payments with respect to the Series 2015 Bonds is secured by a pledge of Pledged General Revenues which may also be pledged to secure other obligations of the University permitted to be secured by Pledged General Revenues on a parity basis with the Series 2015 Bonds, as described below.

THE UNIVERSITY SHALL NOT BE OBLIGATED TO PAY THE PRINCIPAL OF OR INTEREST ON THE SERIES 2015 BONDS EXCEPT FROM THE SOURCES NOTED HEREIN AS PLEDGED THEREFOR. THE SERIES 2015 BONDS AND THE INTEREST THEREON SHALL NOT BE DEEMED TO CONSTITUTE A DEBT OR LIABILITY OF THE COMMONWEALTH OF VIRGINIA, LEGAL, MORAL OR OTHERWISE. NEITHER THE COMMONWEALTH OF VIRGINIA NOR THE UNIVERSITY SHALL BE OBLIGATED TO PAY THE PRINCIPAL OF OR INTEREST ON THE SERIES 2015 BONDS OR OTHER COSTS INCIDENT THERETO EXCEPT FROM THE SOURCES PLEDGED THEREFOR IN THE RESOLUTIONS, AND NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE COMMONWEALTH ARE PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF OR THE INTEREST ON THE SERIES 2015 BONDS OR OTHER COSTS INCIDENT THERETO.

#### **Pledged General Revenues**

**Pledge of Pledged General Revenues.** Pursuant to each of the Resolutions, the University is required to pay the principal of and interest on the Series 2015 Bonds as they become due and upon redemption, acceleration, maturity or otherwise. The Series 2015 Bonds are secured and other Credit Obligations of the University are

secured on a parity basis with the Series 2015 Bonds (collectively, "Parity Credit Obligations"), by a pledge of Pledged General Revenues. See "SECURITY FOR THE SERIES 2015 BONDS – Pledged General Revenues - Additional Obligations Secured by Pledged General Revenues - Parity Credit Obligations" below.

"Pledged General Revenues" means any or all of the revenues now or hereafter available to the University which are not required by law, by binding contract entered into prior to the date of the Resolutions, or by the provisions of any Qualifying Senior Obligation (as defined in Appendix G) to be devoted to some other purpose and will include, without limitation, all revenues pledged to the payment of any Qualifying Senior Obligation net of amounts necessary to pay it or any operating or other expenses, the payment of which is required or permitted to be made with such revenues prior to payment of such Qualifying Senior Obligation.

The University has previously issued certain obligations secured by a pledge of the net revenues from the specific system or facility financed with the proceeds of such obligations, which are therefore Pledged General Revenues devoted to some other purpose within the meaning of the definition of Pledged General Revenues and are prior and superior to the pledge thereof securing the Series 2015 Bonds. These obligations include those secured by a pledge of net revenues from certain dormitory, dining hall, telecommunications, parking, student center, athletic and utility fees. A portion of these obligations are being redeemed upon the issuance of the Series 2015 Bonds. See "FINANCIAL INFORMATION – Indebtedness and other Obligations – Outstanding Obligations" and "-Debt Service Requirements" in Appendix A, as well as the audited financial statements of the University included as Appendix B, for additional information regarding indebtedness of the University, including indebtedness secured by revenues excluded from the Pledged General Revenues securing the Series 2015 Bonds.

Additional Obligations Secured by Pledged General Revenues - Qualifying Senior Obligations. The Resolutions permit the University, within the limitations described in "Additional Indebtedness" in Appendix G, to pledge in the future the revenues from certain revenue producing facilities or systems to the payment of future Qualifying Senior Obligations, with such pledge being superior to the pledge of Pledged General Revenues securing the Series 2015 Bonds and with operating expenses of such facilities or systems also having a prior claim to such revenues. For example, Qualifying Senior Obligations may include those secured by a pledge of net revenues from certain dormitory, dining hall, parking or student fees. All such pledges would be (1) prior and superior to the pledge of Pledged General Revenues securing the Series 2015 Bonds, and (2) net of operating expenses for the related facility or system, and such revenues would be available to pay the Series 2015 Bonds and other Parity Credit Obligations secured by Pledged General Revenues only to the extent such revenues are not required for either operating expenses of the facility or system involved or debt service on the related Qualifying Senior Obligations.

The Series 2004B/C/D Bonds are Qualifying Senior Obligations but will be redeemed concurrently with the issuance of the Series 2015 Bonds. See "THE PLAN OF FINANCE – Concurrent Redemption." The Series 2015A Bonds, the Series 2015B Bonds, the Series 2015C Bonds and the Series 2015D Bonds and certain other of the University's outstanding obligations identified in "FINANCIAL INFORMATION - Indebtedness and other Obligations - Outstanding Obligations" in Appendix A are Qualifying Senior Obligations.

Additional Obligations Secured by Pledged General Revenues - Parity Credit Obligations. The University has previously issued bonds secured by a pledge of Pledged General Revenues identical to the pledge securing the Series 2015 Bonds, which will be refunded in full with the proceeds of the Series 2015 Bonds or concurrently redeemed upon the issuance of the Series 2015 Bonds. See "THE PLAN OF FINANCE." The Resolutions permit the University to incur, assume, guarantee or otherwise become liable on any other Parity Credit Obligation secured by a pledge of the Pledged General Revenues provided certain requirements are satisfied, as described in "Additional Indebtedness" in Appendix G.

In addition, the University may enter into Interest Rate Agreements, the regularly scheduled payments, the termination payments, or any other payments payable by the University under which may be on a parity or subordinate basis as to the right to payment from Pledged General Revenues with the Series 2015 Bonds. See "Interest Rate Agreements" in Appendix G.

#### **Net Revenues of the Systems**

Pledge of Net Revenues. In addition to the University's pledge of Pledged General Revenues, the Series 2015A Bonds and any Additional Dormitory Bonds (as defined in Appendix C) (together, the "Dormitory and Dining Hall System Bonds") will be secured by a pledge of and lien on the Net Revenues (as defined in Appendix C) of the Dormitory and Dining Hall System. The Dormitory and Dining Hall System Bonds will also be secured by a pledge of and lien on the Revenue Fund, Debt Service Fund and Construction Fund (as such terms are defined in Appendix C), except that the Dormitory and Dining Hall System Bonds will be secured by the Reserve Fund only if and to the extent that provisions are made in the applicable Series Resolutions (as defined in Appendix C) for such Dormitory and Dining Hall System Bonds to be so secured. There is no Reserve Fund for the Series 2015B Bonds. See Footnote 13 in the University's financial statements attached as Appendix B for a description of the other outstanding indebtedness of the University secured by a lien on the Net Revenues of the Dormitory and Dining Hall System. See "SECURITY FOR THE SERIES 2015 BONDS – Net Revenues of the Systems – Additional Obligations Secured by the Net Revenues of the Systems" herein and "Additional Dormitory Bonds" in Appendix C for a description of the requirements to be met in order to issue additional indebtedness by or on behalf of the University in the future secured by a lien on Net Revenues of the Dormitory and Dining Hall System on a parity with the lien thereon securing the Series 2015A Bonds.

In addition to the University's pledge of Pledged General Revenues, the Series 2015B Bonds and any Additional Athletic Facilities System Bonds (as defined in Appendix D) (together, the "Athletic Facilities System Bonds") will be secured by a pledge of and lien on the Net Revenues (as defined in Appendix D) of the Athletic Facilities System. The Athletic Facilities System Bonds will also be secured by a pledge of and lien on the Revenue Fund, Debt Service Fund and Construction Fund (as such terms are defined in Appendix D), except that the Athletic Facilities System Bonds will be secured by the Reserve Fund only if and to the extent that provisions are made in the applicable Series Resolutions (as defined in Appendix D) for such Athletic Facilities System Bonds to be so secured. There is no Reserve Fund securing the Series 2015B Bonds. See "SECURITY FOR THE SERIES 2015 BONDS - Net Revenues of the Systems – Additional Obligations Secured by the Net Revenues of the Systems" herein and "Additional Athletic Facilities Bonds" in Appendix D for a description of the requirements to be met in order to issue additional indebtedness by or on behalf of the University in the future secured by a lien on Net Revenues of the Athletic Facilities System on a parity with the lien thereon securing the Series 2015B Bonds.

In addition to the University's pledge of Pledged General Revenues, the Series 2015C Bonds and any Additional University Services System Bonds (as defined in Appendix E) (together, the "University Services System Bonds") will be secured by a pledge of and lien on the Net Revenues (as defined in Appendix E) of the University Services System. The University Services System Bonds will also be secured by a pledge of and lien on the Revenue Fund, Debt Service Fund and Construction Fund (as such terms are defined in Appendix E), except that the University Services System Bonds will be secured by the Reserve Fund only if and to the extent that provisions are made in the applicable Series Resolutions (as defined in Appendix E) for such University Services System Bonds to be so secured. There is no Reserve Fund securing the Series 2015C Bonds. See "SECURITY FOR THE SERIES 2015 BONDS - Net Revenues of the Systems - Additional Obligations Secured by the Net Revenues of the Systems "herein and "Additional University Services Bonds" in Appendix E for a description of the requirements to be met in order to issue additional indebtedness by or on behalf of the University in the future secured by a lien on Net Revenues of the University Services System on a parity with the lien thereon securing the Series 2015C Bonds.

In addition to the University's pledge of Pledged General Revenues, the Series 2015D Bonds and any Additional Utility System Bonds (as defined in Appendix F) (together, the "Utility System Bonds") will be secured by a pledge of and lien on the Net Revenues (as defined in Appendix F) of the Utility System. The Utility System Bonds will also be secured by a pledge of and lien on the Revenue Fund, Debt Service Fund and Construction Fund (as such terms are defined in Appendix F), except that the Utility System Bonds will be secured by the Reserve Fund only if and to the extent that provisions are made in the applicable Series Resolutions (as defined in Appendix F) for such Utility System Bonds to be so secured. There is no Reserve Fund securing the Series 2015D Bonds. See "SECURITY FOR THE SERIES 2015 BONDS - Net Revenues of the Systems - Additional Obligations Secured by the Net Revenues of the Systems" herein and "Additional Utility System Bonds" in Appendix F for a description of the requirements to be met in order to issue additional indebtedness by or on behalf of the University in the future secured by a lien on Net Revenues of the Utility System on a parity with the lien thereon securing the Series 2015D Bonds.

In the Systems Resolutions, the University has covenanted to impose and collect fees, rents and charges for or in connection with the use, occupation or services of the Dormitory and Dining Hall System, the Athletic Facilities System, the University Services System and the Utility System (together, the "Systems"), as appropriate, and that, from time to time and often as it shall appear necessary, it will revise such fees, rents and charges as may be necessary or proper so that moneys deposited or transferred to the credit of the Revenue Fund in each Fiscal Year from any available funds, including without limitation any transfers thereto from the Surplus Fund, will not be less than 100% of the operations and maintenance expenses of each System for the current Fiscal Year plus 100% of the debt service and other amounts payable for the current Fiscal Year on all Bonds issued pursuant to each System Resolution and on all Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations then outstanding and any required deposits into any Reserve Fund under the System Resolution. See ["Particular Covenants of the University - Covenants as to Fees as Revenues" in each of Appendices C, D, E and F. Each of the Systems Resolutions also provides that the University may at any time (a) exclude any Revenues from the Revenues pledged thereunder if, prior to the exclusion of such Revenues an Authorized Officer of the University certifies in writing (1) that after the exclusion of the Revenues designated in such certificate, the University will not be in default of any of its covenants under the applicable Systems Resolution or any Series Resolution adopted pursuant thereto, including without limitation its covenants relating to fees, rates, charges and revenues and (2) that Revenues received or to be received in the then current Fiscal Year, after taking into account such exclusion, will in the opinion of such Authorized Officer not be less than 100% of the operations and maintenance expenses of each System for the current Fiscal Year plus 100% of the debt service payable for the current Fiscal Year on all Bonds issued pursuant to each System Resolution and on all Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations then outstanding and any required deposits into any Reserve Fund under the System Resolution, and (b) add to the definition of Revenues thereunder any Revenues that are not then subject to the lien thereof by filing with the Paying Agent a written notice of such addition and a description of the Revenues to be added.

Additional Obligations Secured By Net Revenues of the Systems. Each of the System Resolutions provides that any future Section 9(c) Bonds issued by or on behalf of the University that are secured by a pledge of all or any portion of the Net Revenues also pledged to secure any of the Series 2015 Bonds issued under such System's Resolution shall without further action automatically be deemed to be Parity Indebtedness secured on a parity basis with the Series 2015 Bonds issued pursuant to such System's Resolution, unless expressly subordinated to the pledge of Net Revenues. For purposes of the System Resolutions, "Parity Indebtedness" means any Credit Obligation of the University which currently exists or which may be incurred in accordance with the terms of the applicable System Resolution that is secured on a parity with the pledge of Revenues under such System Resolution. The System Resolutions permit the University to incur, assume, guarantee or otherwise become liable on other Parity Indebtedness provided certain requirements are satisfied. See "Additional Indebtedness" in Appendices C, D, E and F.

In addition, each of the System Resolutions provides that the University may enter into Interest Rate Agreements, the amounts payable by the University under which are secured by a pledge of all or any portion of the Net Revenues also pledged to secure any of the Series 2015 Bonds issued under the System Resolutions; provided, however, (i) regularly scheduled payments may be secured on a parity basis and (ii) termination payments and any other payments payable by the University under the Interest Rate Agreements will be secured on a subordinate basis. See "Interest Rate Agreements" in Appendices C, D, E and F.

#### **Defeasance**

If the University provides to the Paying Agent cash or noncallable Government Obligations sufficient to provide for payment of all or part of the Series 2015 Bonds and meets certain other requirements, such Series 2015 Bonds will no longer be secured by the pledge of Pledged General Revenues or Net Revenues of the Systems but instead by such cash or noncallable Government Obligations. Such requirements are described more fully in "Defeasance" in Appendices C, D, E, F and G attached hereto.

#### No Liens or Reserves; Disposition of Assets

The Series 2015 Bonds are not secured by any lien on or security interest in any real property or fixed assets of the University. In addition, the Series 2015 Bonds are not secured by a debt service reserve fund.

Pursuant to the System Resolutions, the University may sell, exchange, lease or otherwise dispose of any equipment, machinery, fixtures, apparatus, tools, instruments or other similar property if the University determines that such articles are no longer needed or are no longer useful in connection with the System, and the proceeds thereof shall be applied to the replacement of the properties so sold, exchanged, leased or disposed of or shall be deposited to the credit of the Surplus Fund. The University may from time to time sell, exchange, lease or otherwise dispose of any other property of the System, provided, however, if such sale, exchange, lease or disposition would result in a loss of more than 10% of the Revenues of the System, the University shall (a) deposit the proceeds from such sale, exchange, lease or disposition into the Debt Service Fund, to be used to redeem the applicable series of Bonds on the earliest date on which an optional redemption may be permitted and (b) unless the Bonds will be redeemed in full pursuant to (a) or the applicable System Resolution or the Bonds are otherwise defeased as provided in the applicable System Resolution, the University performs an internal rate study for the System and, if the rate study shows that the remaining Revenues will be insufficient to deposit into the Revenue Fund for the payment of 100% of the operations and maintenance expenses of the System for the current Fiscal Year plus 100% of the debt service and other amounts payable for the current Fiscal Year on all Bonds issued pursuant to the applicable System Resolution and on all Parity Indebtedness, Parity Swap Obligations and Subordinate Obligations then outstanding, and any required deposits into any Reserve Fund under the System Resolution, the University shall adjust its rates in the manner recommended by the rate study so that the Revenues will be sufficient to pay such amounts. See "Covenant Against Sale or Encumbrances" in Appendices C, D, E and F.

Pursuant to the Series 2015E Resolution, the University may convey, sell or otherwise dispose of property of the University if such disposition is either in the ordinary course of business, or if an Authorized Officer certifies in writing that taking into account such disposition (1) the University expects to have sufficient funds to meet all of its financial obligations, including its obligations to pay principal of and interest and other amounts on all Credit Obligations and Interest Rate Agreements as and when due and payable in accordance with their terms, for all Fiscal Years, to and including the second full Fiscal Year after such disposition and (2) such Authorized Officer has no reason to believe that the University will not have sufficient funds to pay all amounts due under all indebtedness of the University then outstanding. See "Covenant Against Sale or Encumbrances" in Appendix G.

#### **Operating Covenants; Amendments**

In the Resolutions, the University has entered into certain operating covenants, which, along with other provisions relating to the security for the Series 2015 Bonds, may be amended with or without the consent of the holders of a majority of the principal amount of the Series 2015 Bonds then outstanding. See "Supplemental Bond Resolutions Without Bondholder Consent" and "Supplemental Resolutions Requiring Bondholder Consent" in Appendices C, D, E, F and G attached hereto.

#### Insurance

In the Resolutions, the University has covenanted that it will at all times carry, or cause to be carried, with a responsible insurance company or companies, qualified to assume the risks thereof, or that it will maintain an adequate program of self-insurance, in either case sufficient to provide the University such insurance in such amount and covering such risks as the University shall deem to be reasonable and desirable.

#### No Acceleration

The Series 2015 Bonds are not subject to acceleration upon default or otherwise.

#### **Enforceability of Remedies**

The remedies available to the registered holders of the Series 2015 Bonds upon an Event of Default under the applicable Resolution are in many respects dependent upon regulatory and judicial actions, which are often subject to discretion and delay. Under existing law, the remedies provided under the Resolutions may not be readily available or may be limited. The various legal opinions to be delivered concurrently with the delivery of the Series 2015 Bonds will be qualified as to enforceability of the various legal instruments, limitations imposed by bankruptcy, reorganization, insolvency or similar laws affecting the rights of creditors generally and by judicial discretion applicable to equitable remedies and proceedings generally. See Appendices C, D, E, F and G to this Official Statement.

#### INVESTMENT CONSIDERATIONS

The ability of the University to pay debt service on the Series 2015 Bonds may be affected by a wide variety of factors, including the level of appropriations to the University made by the Commonwealth of Virginia and the University's ability to attract students, contributions, grants and other funds. Prospective purchasers of the Series 2015 Bonds should review carefully the financial and other information relating to the University contained in Appendices A and B hereto. The following are some of the factors that may affect the economic well being of the University.

#### Support by the Commonwealth

The University is dependent upon tax revenues of the Commonwealth for a substantial portion of its revenues. General economic conditions in the Commonwealth, tax revenue collections and a variety of other factors could affect future appropriations to the University from such revenues, which have declined in recent years. See "FINANCIAL INFORMATION – Appropriations from the Commonwealth" in Appendix A.

#### Student Fees; Faculty; Grants and Other Support

A substantial portion of the University's revenues is derived from tuition and other fees paid by students, including students from states other than Virginia paying significantly higher tuition and fees than those paid by residents of the Commonwealth. The University's ability to collect student tuition and fees could be affected by general economic conditions, the general reputation of the University or particular programs and any requirements that it reduce the number of out-of-state students. Such changes could also affect the ability of the University to attract and retain high quality faculty, who in turn affect the University's ability to attract students, grants and other forms of financial support.

The University's ability to collect student tuition and fees is further impacted by policies of the Virginia General Assembly. It is also the objective of the Virginia General Assembly that public colleges and universities establish a tuition and fee policy whereby Virginia undergraduate students pay not more than one-third of the cost of their education at senior institutions.

The University's revenues include a wide variety of federal funds, including contracts for services, grants, scholarships, loans and other forms of federal assistance. Current economic conditions and legislative response thereto, including any future federal shutdown, may reduce federal funds available for such federal assistance to the University, and further restrictions on a number of such programs or a reduction in the amount of indirect costs the University can recover under some programs could have an adverse effect on the University.

#### **Fund Raising and Endowment**

The University receives funds from alumni and other private donors and from earnings on various endowments and other funds. See "FINANCIAL INFORMATION - Related Foundation" and "- Private Support and Development Efforts" in Appendix A. General economic conditions could affect the University's ability to receive donations at recent levels, and a wide variety of factors could affect the generation of income from endowments and other funds producing income for the University. Current and future legislative tax proposals may

reduce the amount of donations received by the University by capping deductions for charitable contributions or otherwise affecting the after tax cost of donations.

#### ABSENCE OF LITIGATION

There is no litigation pending in any court or, to the best knowledge of the University, threatened, questioning the corporate existence of the University, or that would restrain or enjoin the issuance or delivery of the Series 2015 Bonds, or that concerns the proceedings of the University taken in connection with the Series 2015 Bonds or the pledge or application under the Resolutions of Pledged General Revenues to payment of all Series 2015 Bonds and of Net Revenues of the Dormitory and Dining Hall System, the Athletic Facilities System, the University Services System and the Utility System to payment of the Series 2015A Bonds, the Series 2015B Bonds, the Series 2015C Bonds, and the Series 2015D Bonds, respectively, or which contests the powers of the University with respect to the foregoing.

#### LEGAL MATTERS

Legal matters with regard to the authorization and sale of the Series 2015 Bonds are subject to the approving opinion of Troutman Sanders LLP, Bond Counsel, which opinion will be furnished at the expense of the University upon the delivery of the Series 2015 Bonds and will be substantially in the form set forth in Appendix G. Bond Counsel's opinion will be limited to matters relating to the authorization and validity of the Series 2015 Bonds and to the tax-exempt status of interest thereon. See "TAX MATTERS."

Certain legal matters will be passed upon for the University by Kay Heidbreder, Esquire, Associate General Counsel to the University and Special Assistant Attorney General, and for the Underwriters by its counsel, McGuireWoods LLP, Richmond, Virginia.

#### TAX MATTERS

#### **Opinion of Bond Counsel**

Bond Counsel's opinion will state that, under current law and assuming the accuracy of certain representations and compliance with certain covenants referenced below, interest on the Series 2015 Bonds is excludable from gross income for purposes of federal income taxation and is not a specific item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporations. However, for the purposes of the alternative minimum tax imposed on corporations (as defined for federal income tax purposes under Section 56 of the Internal Revenue Code of 1986, as amended (the "Code")), interest on the Series 2015 Bonds must be included in determining adjusted current earnings for purposes of computing such tax. Bond Counsel's opinion also will state that interest on the Series 2015 Bonds is exempt from income taxation by the Commonwealth. No other opinion will be expressed by Bond Counsel regarding the federal or state tax consequences of the ownership of, or the receipt or accrual of interest, on the Series 2015 Bonds, and prospective purchasers of the Series 2015 Bonds should consult their own tax advisors regarding the tax status of interest and other income on the Series 2015 Bonds in a particular state or local jurisdiction other than Virginia.

Bond Counsel's opinion speaks as of its date, is based on current legal authority and precedent, covers certain matters not directly addressed by such authority and precedent, and represents Bond Counsel's judgment as to the proper treatment of interest on the Series 2015 Bonds for federal income tax purposes. Bond Counsel's opinion does not contain or provide any opinion or assurance regarding the future activities of the University or about the effect of future changes in the Code, the applicable regulations, the interpretation thereof or the enforcement thereof by the Internal Revenue Service (the "IRS").

In rendering its opinion, Bond Counsel will rely without independent investigation on certain representations of and compliance with covenants by the University, including, without limitation, representations, covenants and certifications as to the use, expenditure and investment of the proceeds of the Series 2015 Bonds, the use of the projects financed by the Series 2015 Bonds, compliance with the arbitrage reporting and rebate requirements, and other material factual matters. The inaccuracy of such representations and certifications and the failure to comply with such covenants may cause interest on the Series 2015 Bonds to be included in gross income

for federal income tax purposes retroactive to the date of issuance of the Series 2015 Bonds. In the event of noncompliance with the covenants, the available enforcement remedies may be limited by applicable provisions of law and, therefore, may not be adequate to prevent interest on the Series 2015 Bonds from becoming includable in gross income for federal income tax purposes.

#### **Original Issue Discount**

The excess, if any, of the amount payable at maturity of any maturity of the Series 2015 Bonds over the initial public offering price to the public (excluding bond houses, brokers or similar persons acting in the capacity of underwriters or wholesalers) at which price a substantial amount of such maturity is sold constitutes original issue discount, which will be excludable from gross income to the same extent as interest on the Series 2015 Bonds for federal income tax purposes. The Code provides that the amount of original issue discount accrues in accordance with a constant interest method based on the compounding of interest, and that a holder's adjustable basis for purposes of determining a holder's gain or loss on disposition of the Series 2015 Bonds with original issue discount (the "OID Bonds") will be increased by such amount. In addition, original issue discount that accrues in each year to an owner of an OID Bond is included in the calculation of the distribution requirements of certain regulated investment companies and may result in some of the collateral federal income tax consequences discussed below. Consequently, owners of any OID Bond should be aware that the accrual of original issue discount in each year may result in additional distribution requirements or other collateral federal income tax consequences although the owner of such OID Bond has not received cash attributable to such original issue discount in such year.

Owners of OID Bonds should consult their personal tax advisors with respect to the determination for federal income tax purposes of the amount of original issue discount or interest properly accruable with respect to such OID Bonds, other tax consequences of owning OID Bonds and other state and local tax consequences of holding such OID Bonds.

#### **Original Issue Premium**

The excess, if any, of the tax basis of any maturity of the Series 2015 Bonds to a purchaser (other than a purchaser who holds such Series 2015 Bonds as inventory, stock in trade or for the sale to customers in the ordinary course of business) over the amount payable at maturity is "bond premium." Bond premium is amortized over the term of the Series 2015 Bonds for federal income tax purposes (or in the case of a Series 2015 Bond with bond premium callable prior to its stated maturity, the amortization period and yield may be required to be determined on the basis of an earlier call date that results in the lowest yield on such obligation). Owners of such Series 2015 Bonds are required to decrease their adjusted basis in such Series 2015 Bonds by the amount of amortizable bond premium attributable to each taxable year such Series 2015 Bonds are held. The amortizable bond premium on such Series 2015 Bonds attributable to a taxable year is not deductible for federal income tax purposes; however, bond premium is treated as an offset to qualified stated interest received on such Series 2015 Bonds.

Owners of Series 2015 Bonds with bond premium should consult their personal tax advisors with respect to all matters relating to such premium.

#### **Certain Collateral Federal Tax Consequences**

The following is a brief discussion of certain collateral federal income tax matters with respect to the Series 2015 Bonds. It does not purport to address all aspects of federal taxation that may be relevant to a particular owner thereof. Prospective purchasers of the Series 2015 Bonds, particularly those who may be subject to special rules, are advised to consult their own tax advisors regarding the federal tax consequences of owning or disposing of the Series 2015 Bonds.

Prospective purchasers of the Series 2015 Bonds should be aware that the ownership of tax-exempt obligations may result in collateral federal income tax consequences to certain taxpayers including, without limitation, financial institutions, certain insurance companies, certain corporations (including S corporations and foreign corporations), certain foreign corporations subject to the "branch profits tax," individual recipients of Social Security or Railroad Retirement benefits, taxpayers who may be deemed to have incurred or continued indebtedness to purchase or carry tax-exempt obligations and taxpayers attempting to qualify for the earned income tax credit.

In addition, prospective purchasers should be aware that the interest paid on, and the proceeds of the sale of, tax-exempt obligations, including the Series 2015 Bonds, are in many cases required to be reported to the IRS in a manner similar to interest paid on taxable obligations. Additionally, backup withholding may apply to any such payments to any owner of a Series 2015 Bond who fails to provide an accurate Form W-9 Payers Request for Taxpayer Identification Number, or a substantially identical form, or to any owner of a Series 2015 Bond who is notified by the IRS of a failure to report all interest and dividends required to be shown on federal income tax returns. The reporting and withholding requirements do not in and of themselves affect the excludability of such interest from gross income for federal tax purposes or any other federal tax consequence of purchasing, holding or selling tax-exempt obligations.

#### Possible Legislative, Regulatory or Enforcement Action

Legislation and regulations affecting tax-exempt bonds are continually being considered by the United States Congress, the U.S. Department of the Treasury (the "Treasury"), the IRS and various state legislatures. Court proceedings may also be filed the outcome of which could modify the federal or state tax treatment of tax-exempt obligations. In addition, the IRS has established an expanded audit and enforcement program for tax-exempt bonds. There can be no assurance that legislation enacted or proposed after the date of issue of the Series 2015 Bonds or an audit initiated or other enforcement or regulatory action taken by the Treasury or the IRS or actions by a court involving either the Series 2015 Bonds or other tax-exempt bonds will not have an adverse effect on the federal or state tax status or the market price of the Series 2015 Bonds or on the economic value of the tax-exempt status of the interest thereon.

Prospective purchasers of the Series 2015 Bonds should consult their own tax advisors regarding the potential consequences of any such pending or proposed federal or state tax legislation, regulations or litigation, as to which Bond Counsel expresses no opinion.

#### UNDERWRITING

Merrill Lynch, Pierce, Fenner & Smith Incorporated (a wholly owned subsidiary of Bank of America Corporation) on behalf of itself and Davenport & Company LLC, Morgan Stanley & Co. LLC and Wells Fargo Securities (collectively, the "Underwriters") expects to enter into a Bond Purchase Agreement for the Series 2015 Bonds (the "Bond Purchase Agreement") to purchase the Series 2015 Bonds, subject to certain conditions, at a price equal to the principal amount of the Series 2015 Bonds [plus/less] a net original issue [premium/discount] of \$_____ and less an Underwriters' discount of \$____ (approximately ____ % of the principal amount of the Series 2015 Bonds). The obligation of the Underwriters to pay for the Series 2015 Bonds is subject to certain terms and conditions set forth in the Bond Purchase Agreement, including the delivery of specified opinions of counsel and of a certificate of the University that there has been no material adverse change in its condition (financial or otherwise) from that set forth in this Official Statement.

The Underwriters may offer and sell the Series 2015 Bonds to certain dealers (including dealer banks and dealers depositing the Series 2015 Bonds into investment trusts) and others at prices different from the public offering prices stated on the inside cover pages of this Official Statement. Such initial public offering prices may be changed from time to time by the Underwriters.

The Underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. Under certain circumstances, the Underwriters and their affiliates may have certain creditor and/or other rights against the University and its affiliates in connection with such activities. In the various course of their various business activities, the underwriters and their respective affiliates, officers, directors and employees may purchase, sell or hold a broad array of investments and actively trading securities, derivatives, loans, commodities, currencies, credit default swaps and other financial instruments for their own account and for the accounts of their customers, and such investment and trading activities may involve or relate to asset, securities and/or instruments of the University (directly, as collateral securing other obligations or otherwise) and/or persons and entities with relationships with the University. The Underwriters and their respective affiliates may also

communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

Morgan Stanley, parent company of Morgan Stanley & Co. LLC, an Underwriter of the Bonds, has entered into a retail brokerage joint venture with Citigroup Inc. As part of the joint venture, Morgan Stanley & Co. LLC will distribute securities to retail investors through the financial advisor network of a new broker-dealer, Morgan Stanley Smith Barney LLC. This distribution arrangement became effective on June 1, 2009. As part of this arrangement, Morgan Stanley & Co. LLC will compensate Morgan Stanley Smith Barney LLC for its selling efforts with respect to the Series 2015 Bonds.

Wells Fargo Securities is the trade name for certain securities-related capital markets and investment banking services of Wells Fargo & Company and its subsidiaries, including Wells Fargo Bank, National Association ("WFBNA"). WFBNA, one of the Underwriters for the Series 2015 Bonds, has entered into an agreement (the "Distribution Agreement") with its affiliate, Wells Fargo Advisors, LLC ("WFA") for the distribution of certain municipal securities offerings, including the Series 2015 Bonds. Pursuant to the Distribution Agreement, WFBNA will share a portion of its underwriting compensation with respect to the Series 2015 Bonds with WFA. WFBNA also utilizes the distribution capabilities of its affiliate, Wells Fargo Securities, LLC ("WFSLLC"), for the distribution of municipal securities offerings, including the Series 2015 Bonds. In connection with utilizing the distribution capabilities of WFSLLC, WFBNA pays a portion of WFSLLC's expenses based on its municipal securities transactions. WFBNA, WFSLLC and WFA are each wholly-owned subsidiaries of Wells Fargo & Company.

#### RATINGS

As shown on the cover page of this Official Statement, the Series 2015 Bonds have been rated ____ by Standard & Poor's Ratings Group, a division of The McGraw-Hill Companies, Inc. ("S&P"), and ____ by Moody's Investors Service, Inc. ("Moody's"). The University requested that the Series 2015 Bonds be rated and furnished certain information to S&P and Moody's, including certain information that may not be included in this Official Statement. Generally, a rating agency bases its rating on the information and materials furnished to it and on investigations, studies and assumptions of its own.

Such ratings reflect only the views of the rating agencies, and further explanation of the significance of such ratings may be obtained from S&P, at 55 Water Street, New York, New York, 10041 and from Moody's, at 99 Church Street, New York, New York 10007. Such ratings are not a recommendation to buy, sell or hold the Series 2015 Bonds. There is no assurance that such ratings will continue for any given period of time or that such ratings will not be revised downward or withdrawn entirely by the rating agencies if, in their judgment, circumstances so warrant. Such action, if taken, could have an adverse effect on the market price of the Series 2015 Bonds.

Neither the University nor the Underwriters have undertaken any responsibility after issuance of the Series 2015 Bonds to assume maintenance of such ratings or to oppose any proposed revision or withdrawal of such ratings.

#### FINANCIAL ADVISORS

The University has retained Raymond James & Associates, Inc., Richmond, Virginia (the "Financial Advisor") in connection with the issuance of the Series 2015 Bonds. The Financial Advisor is not obligated to undertake, and has not undertaken to make, an independent verification or to assume responsibility for the accuracy, completeness, or fairness of the information contained in this Official Statement.

#### **RELATIONSHIP OF PARTIES**

McGuireWoods LLP, counsel to the Underwriters, previously has represented the University on matters unrelated to the issuance of the Series 2015 Bonds. Troutman Sanders LLP, bond counsel, serves as counsel to the Underwriters from time to time on matters unrelated to the issuance of the Series 2015 Bonds.

#### CONTINUING DISCLOSURE

#### General

To permit compliance by the Underwriters with the continuing disclosure requirements of Rule 15c2-12 promulgated by the Securities and Exchange Commission, as amended (the "Rule"), the University will execute at closing a Continuing Disclosure Agreement (the "CDA") requiring the University to provide certain annual operational and financial information and material event notices required by the Rule. Such information will be filed through the Electronic Municipal Market Access System ("EMMA") maintained by the Municipal Securities Rulemaking Board and may be accessed through the Internet at emma.mrsb.org. Prior to July 1, 2009, filings by the University under prior continuing disclosure agreements were made through the then existing national recognized municipal securities information repositories.

The proposed form of the CDA is set forth in Appendix I.

The CDA requires the University to provide only limited information at specific times, and the information provided may not be all the information necessary to value the Series 2015 Bonds at any particular time. The University may from time to time disclose certain information and data in addition to that required by the CDA. If the University chooses to provide any additional information, the University shall have no obligation to continue to update such information or to include it in any future disclosure filing.

Failure by the University to comply with the Annual Disclosure (as defined in the CDA) provisions of the CDA shall not be an "Event of Default" under the Resolutions. The sole and exclusive remedy shall be an action brought by or on behalf of the Bondholders to compel specific performance. No assurance can be given as to the outcome of any such proceeding.

#### **Prior Filings**

In connection with prior continuing disclosure agreements entered into by the University, the University in the last five years has complied in all material respects with such disclosure undertakings except as described below.

[Disclosure to come]

#### **MISCELLANEOUS**

The summaries or descriptions of provisions of the Resolutions and all references to other materials not purporting to be quoted in full are qualified in their entirety by reference to the complete provisions of tile documents and other materials summarized and described. Copies of the Resolutions may be obtained from the Paying Agent.

Any statements made in this Official Statement involving matters of opinion or estimates, whether or not so expressly stated, are set forth as such and not as representations of fact, and no representation is made that any of such estimates will be realized. Information in this Official Statement concerning the University (including financial data) has been selected and prepared by or on behalf of the University for inclusion herein.

The University has deemed this Preliminary Official Statement "final" as of its date within the meaning of the Rule, except for the omission of certain pricing and other information permitted to be omitted by the Rule.

VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

By:	
-	University Treasurer

## APPENDIX A

# VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

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#### VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

#### General

Virginia Polytechnic Institute and State University ("Virginia Tech", or the "University") was founded in 1872 as the public, land grant institution for the Commonwealth of Virginia (the "Commonwealth"). Through a combination of its three missions of learning, discovery, and engagement, Virginia Tech strives to accomplish the charge of its motto *Ut Prosim* (That I May Serve).

#### **Campus**

The University is located in Blacksburg, Virginia, 38 miles southwest of Roanoke, Virginia. Campus and research grounds in the Blacksburg and surrounding areas cover in excess of 5,000 acres with more than 153 major campus buildings. As of June 30, 2014, the historical cost value of all the University's buildings in the Commonwealth totaled \$1.641 billion. To support its academic and research mission, the University has made significant investments in physical facilities in recent years. Since 2000, the University has constructed 2.9 million square feet of new buildings, with a total value of \$1.2 billion. In addition, the University has established five satellite campuses throughout the Commonwealth and two overseas centers.

The University's Carol M. Newman Library, a national leader in library technology and home to more than 2.3 million volumes, has been admitted to the Association for Research Libraries. Virginia Tech Information Technology's computing center, built around a multi-vendor network of computing and communications systems, provides centralized resources for teaching, research, and administration. All campus facilities, including residence halls, are connected by more than 1,000 miles of fiber-optic cable providing voice, data, and video communications. Additionally, a wireless network that provides access to computing resources is available in approximately 95% of the academic and administrative facilities and has been deployed in the residence hall common areas.

#### Academics

The university offers 240 graduate, undergraduate, and professional degree programs to more than 31,000 full-time students through its eight academic colleges (Agriculture and Life Sciences, Architecture and Urban Studies, Engineering, Liberal Arts and Human Sciences, Natural Resources and Environment, Pamplin College of Business, Science and the Virginia-Maryland Regional College of Veterinary Medicine). The University's full-time enrollment is the most of any other college or university in the Commonwealth.

In addition, the Virginia Tech Carilion School of Medicine (the "School of Medicine") was created through a collaborative agreement between Carilion Health System and the University. The School of Medicine operates as an independent private medical school, leasing space from the University in the same building that houses the University's Virginia Tech Carilion Research Institute. The School of Medicine is separately-accredited, has a separate authorization from the Commonwealth of Virginia to operate in Virginia, is governed by an independent board of directors, and is not under the University's corporate structure either fiscally or otherwise. However, the University and the School of Medicine do regularly collaborate on instruction, research and student services through agreements and contracts. The University's Board of Visitors appoints two representatives to the School of Medicine's board of directors but does not have a controlling interest on the board. While located in the same building, the Virginia Tech Carilion Research Institute is separate from the School of Medicine and is a component unit of the University and is included in the University's corporate structure.

#### Research

According to the National Science Foundation's most recent Higher Education Research and Development Survey, Virginia Tech engaged in more than \$496 million in research and development activity during fiscal year 2013. This makes Virginia Tech the #1-ranked research university in Virginia and in the top 5 percent of universities in the nation. This places Virginia Tech in the top 50 of research universities in the nation, and Virginia Tech is the only Virginia institution in the top 50. Since January 2000, Virginia Tech's research portfolio has risen from \$193 million to \$496 million due to reinvestment in infrastructure and faculty, positioning the University in primary areas of sponsored research, including agriculture, engineering, the health sciences, and physical and natural sciences.

#### **Rankings**

According to various national rankings, Virginia Tech has numerous colleges and programs nationally ranked in the top 20 or higher. These colleges and programs include the College of Engineering, the College of Architecture and Urban Studies, the Interior Design program, the Engineering Science and Mechanics program, the Industrial and Systems Engineering program, the Biological Systems Engineering program, the Civil Engineering program, the Environmental Engineering program, the Electrical Engineering program, the part-time MBA program, the Online Master of Information Technology program, the Mechanical Engineering program, the Aerospace and Ocean Engineering program, and the Computer Engineering program. These rankings are a testament to the University's focus on providing quality education to students at a reasonable cost.

#### Accreditation

The University has been accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) since 1923. The University successfully achieved reaffirmation of accreditation by SACSCOC in December 2010. Reaffirmation of accreditation occurs every 10 years with the next on-site visit scheduled for 2019. Additionally, individual programs, departments and schools hold accreditation from applicable professional agencies and/or governmental boards.

#### **Athletics**

Virginia Tech fields a total of 22 men's and women's intercollegiate sports teams, all of which compete at the Division I level of the National Collegiate Athletic Association ("NCAA") in the Atlantic Coast Conference ("ACC").

#### **UNIVERSITY GOVERNANCE**

#### **Board of Visitors**

The corporate powers of the University are exercised by a Board of Visitors of 14 members, 13 of whom are appointed by the Governor and confirmed by the Senate of Virginia (the "Board of Visitors" or the "Board"). The fourteenth member is the President of the Virginia Board of Agriculture and Consumer Services, who serves exofficio. The usual term is four years, and except in limited circumstances, service is limited to two full terms. Three members of the Board may reside outside Virginia and at least six members must be alumni of the University. The current members of the Board are:

Deborah Petrine, Rector, *Roanoke* James L. Chapman IV, Vice Rector, *Norfolk* Nancy V. Dye, M.D., *Roanoke* 

William D. Fairchild III, *Haymarket* B. Keith Fulton, *Richmond* C.T. Hill, *Midlothian* 

Mehmood Kazmi, *Great Falls* Michael Quillen, *Bristol* 

Wayne H. Robinson, *Greensboro*, *NC* J. Thomas Ryan, M.D., *Fredericksburg* 

Mehul P. Sanghani, McLean Steve Sturgis*, Eastville Dennis H. Treacy, Smithfield

Horacio A. Valeiras, La Jolla, CA

Partner, Crenshaw, Ware, & Martin, PLC Vice President, Gastrointestinal Associates, Division of Physicians Care of Virginia P.C. Retired Chairman, R.W. Murray Co. Vice President, Verizon Communications Retired Chairman, Mid-Atlantic Banking Group and Head of Consumer Banking, SunTrust Partner, Share Investment Company, LLC Retired President, CEO, and Chairman of the Board, Alpha Natural Resources Chief Diversity Practice Leader, Wyndham Mills International Retired Executive Vice President and Chief Medical Officer, Mary Washington Healthcare President and CEO, Octo Consulting Group President, Virginia Board of Agriculture and Consumer Services Executive Vice President and Chief Sustainability Officer Smithfield Foods, Inc.

President & CEO, Commonwealth Care of Roanoke

Managing Principal, HAV Capital, LLC

^{*} Ex-Officio member whose term length runs concurrently with the tenure of his designated office.

#### Administration

On December 6, 2013, the Board appointed Timothy D. Sands as Virginia Tech's 16th president, effective June 1, 2014. President Sands replaced Dr. Charles W. Steger, who served as President for 13 years prior to his retirement. The President has primary responsibility for the management and operation of the University. The provost, vice presidents, deans and all other administrative officers are responsible to the President and through the President to the Board of Visitors. The President serves as the authorized officer through whom communication takes place between the Board and the faculty, the Board and the students, and the Board and the other officers of administration or instruction employed by the University. The Board, as the governing authority of the University, delegates to the President the authority to oversee and to administer the policies of the Board and to manage the administrative, instructional, research, and public service programs of the University.

Dr. Timothy D. Sands, *President*, began his term on June 1, 2014. Prior to joining Virginia Tech, President Sands served as Executive Vice President for Academic Affairs and Provost of Purdue University in West Lafayette, Indiana. He was acting president during the summer and fall of 2012. President Sands earned a bachelor's degree with highest honors in engineering physics and a master's degree and a doctoral degree in materials science from the University of California, Berkeley. He joined the Purdue faculty in 2002 as the Basil S. Turner Professor of Engineering in the schools of Materials Engineering and Electrical and Computer Engineering. Prior to becoming Provost, he served as the Mary Jo and Robert L. Kirk Director of the Birck Nanotechnology Center in Purdue's Discovery Park. From 1993-2002, President Sands was a Professor of Materials Science and Engineering at the University of California, Berkeley, and before that, he performed research and directed research groups at Bell Communications Research in Red Bank, New Jersey. Throughout his career, President Sands has participated in and led research teams and academic programs that have been characterized by open collaboration across a wide array of disciplines. President Sands has published more than 250 refereed papers and conference proceedings and has been granted 20 patents in electronic and optoelectronic materials and devices. His recent research efforts have been directed toward the design and development of novel nanocomposite materials for environmentally friendly and cost-effective solid-state lighting, direct conversion of heat to electrical power and thermoelectric refrigeration. He is a fellow of the Institute of Electrical and Electronics Engineers, the Materials Research Society and the National Academy of Inventors. President Sands is joined at Virginia Tech by his wife, Dr. Laura Sands, a professor of gerontology in the Department of Human Development at Virginia Tech.

**Dr.** Thanassis Rikakis, *Executive Vice President and Provost*, assumed his present position with the University in August 2015. As the chief academic officer at Virginia Tech, Dr. Rikakis is responsible for graduate education, inclusion and diversity, libraries, outreach and international programs, research, undergraduate education, and initiatives in the arts and health sciences. His mission is to promote academic quality and advance the strategic goals of Virginia Tech by providing academic leadership, service, and effective management of university resources. The Provost works with the Academic Affairs Council, composed of the academic deans, academic vice presidents, and vice provosts, to implement the university's strategic plan.

Prior to joining Virginia Tech, Dr. Rikakis served as a full professor in the School of Design and the School of Music at Carnegie Mellon University, and held a courtesy appointment in the Biomedical Engineering Department. There, he coordinated the development of the Integrative Design, Arts and Technology Network, which engages more than 70 faculty members from 15 different university departments and units. Those collaborations resulted in eight new university-wide undergraduate concentrations on creative industry themes served by 35 new interdisciplinary, collaborative studio courses and an expansive making facility housed in the university's central library. Dr. Rikakis was a member of the Arizona State University faculty from 2001 to 2012, and while there he was named the founding director of the new School of Arts, Media, and Engineering in 2003. In that capacity, he led the development of the school's vision, research, and education models, the creation of joint graduate and undergraduate curricula with 12 units at the university, and the establishment of a trans-disciplinary bachelor of arts degree program in Digital Culture and a doctoral degree program in Media Arts and Sciences. He also held a faculty appointment at Columbia University from 1995 to 2001, where he served as associate director of the Computer Music Center. Dr. Rikakis received his Doctor of Musical Arts in Music Composition and a Master of Arts in Music Composition from Ithaca College.

**Dr. Sherwood G. Wilson,** *Vice President for Administration*, began his present position with Virginia Tech in 2007 where he is responsible for oversight and management of all of the University's safety and security operations, physical and human resources (excluding teaching and research faculty). Dr. Wilson has served higher education as an administrator and adjunct faculty for more than 30 years.

Prior to joining Virginia Tech, Dr. Wilson served as Vice Chancellor for Finance and Administration and Chief Operating Officer at The University of Wisconsin-Milwaukee, Associate Vice President for Finance and Administration at Ohio University, Director of Construction & Renovations as well as Director of Physical Plant at Virginia Tech, and Chief Facilities Officer at Alderson Broaddus College in Philippi, West Virginia. Wilson received a Bachelor of Science in Civil Engineering Technology from Fairmont State College in 1988, a Master of Science in Architecture/Building Construction from Virginia Tech in 1993, and a Doctorate in Higher Education Administration from Ohio University in 2003.

Mr. Charles D. Phlegar, Vice President for Advancement, began his present position with Virginia Tech in July 2015. On January 9, 2015, Virginia Tech Vice President for Development and University Relations, Elizabeth A. "Betsy" Flanagan, announced her plans to retire, having held this position since 2000. The University immediately formed a search committee for her successor, chaired by John Dooley, the Chief Executive Officer of the Virginia Tech Foundation. In April 2015, President Sands appointed Charles Phleger as Virginia Tech's Vice President for Advancement, effective July 1, 2015. This position is a new role created by President Sands, with combined responsibilities over alumni relations, university development (fundraising), and university relations.

In his role as head of alumni relations, Mr. Phlegar guides the strategic planning and budgeting of alumni programs, serves as secretary-treasurer of the Virginia Tech Alumni Association, coordinates committees and activities of the alumni board of directors, and shapes communications programs that promote alumni programs and general support of the university. As head of university development, Mr. Phlegar is in charge of fundraising efforts for Virginia Tech, and works with alumni, friends, and donors to support students, faculty, research, and outreach initiatives at the University. Finally, in his role as head of university relations, he works to promote public understanding of Virginia Tech, serving as a resource for strategic communications by providing high-quality, professional communications services that include editorial support, graphic design, photography, video and radio program production, and online communications.

Prior to joining Virginia Tech, Mr. Phlegar served as Chief Fundraiser for Cornell University and led its capital campaign, which raised in excess of \$6 billion. During his nine-year tenure at Cornell, Mr. Phlegar more than doubled Cornell's annual private income. During fiscal years 2014 and 2015, he led efforts that raised more than \$546 million in private gifts. While part of Cornell's executive leadership team, Mr. Phlegar served as an ex-offico member of the investment committee that managed \$6.3 billion in assets. He was a member of the Cornell Tech Steering Committee that secured the winning bid to build a new campus on New York City's Roosevelt Island. Prior to his time at Cornell, he held positions of Senior Associate Vice President and Interim Vice President for Development and Alumni Relations at The Johns Hopkins Institutions where he organized and implemented their \$3.5 billion campaign. As Vice President for Development at University of South Carolina, he launched that university's first capital campaign. Beginning with a \$200 million goal, it raised more than \$500 million. While working at Virginia Tech from 1983 to 1987, Mr. Phlegar was assistant director of athletics for sports marketing and assistant director of the alumni association overseeing chapter operations. Mr. Phlegar grew up in Blacksburg, Virginia, and received a Bachelor of Science in Business Management in 1978 and Master of Science in Education Administration in 1987, both from Virginia Tech.

**Dr. Scott F. Midkiff,** *Vice President for Information Technology and Chief Information Officer,* began his present position with Virginia Tech in October 2012. His duties include applying and integrating information resources to enhance and support instruction, participating in, supporting and enhancing research, fostering outreach by developing partnerships with communities to promote the capabilities of advanced networking and communications, and providing and maintaining secure information systems that allow the University to accomplish its missions. Oversight of the security of university information technology resources and information is entrusted to the Vice President for Information Technology by the Board of Visitors.

Prior to serving in his present position, from 2009 to 2012, Dr. Midkiff was the Department Head of the Bradley Department of Electrical and Computer Engineering at Virginia Tech. He is also a Professor in the Bradley Department of Electrical and Computer Engineering, where he has been on the faculty since 1986. From September 2006 until September 2009, Dr. Midkiff was on assignment as a Program Director at the National Science Foundation. He was previously a visiting research associate at Carnegie Mellon University (1985-1986). Dr. Midkiff received a Bachelor of Science in Engineering, summa cum laude, in Electrical Engineering and Computer Science from Duke University (1979), his Master of Science in Electrical Engineering from Stanford University (1980), and his Doctorate in Electrical Engineering from Duke University (1985).

Mr. M. Dwight Shelton, Jr., Vice President for Finance and Chief Financial Officer, has worked at Virginia Tech since 1979. In his current role, Mr. Shelton is responsible for the financial operations of the University. Mr. Shelton provides leadership and oversight to strategic and financial planning, ensures overall management and integrity of the University's internal and external budgets, provides guidance for University business and financial initiatives, represents the University in its relationships with its related corporations, and is engaged in the processes of obtaining new resources and allocating resources such that goals and objectives are accomplished consistent with the University mission. The offices of Budget and Financial Planning, Controller, Hokie Passport, Purchasing, University Treasurer, Capital Assets and Financial Management, and Finance Information Technology report to Mr. Shelton.

During his 36 years at Virginia Tech, Mr. Shelton has served in a variety of roles including Director of Internal Audit, University Controller, University Budget Director, Associate Vice President for Budget, Financial Planning and Analysis, Vice President for Budget and Financial Management, and in his current role of Vice President for Finance and Chief Financial Officer. Prior to joining Virginia Tech, Mr. Shelton was a manager with the accounting firm of Ernst & Whinney, where he was a member of the audit staff from 1971 to 1979 and led the audit activities for several clients, including the Securities and Exchange Commission, private corporations, and nonprofit clients. He holds both a Bachelor of Science in Accounting and a Master of Business Administration from Virginia Tech. He is a member of the Virginia Society of Certified Public Accountants and also holds a certificate of public accountant in North Carolina

Mr. John J. Cusimano, *University Treasurer*, has worked at Virginia Tech since 1988. He currently serves as the Treasurer for the University and the Associate Vice President for Finance for the Virginia Tech Foundation. Mr. Cusimano oversees the investment of over \$2.1 billion of financial assets for both the University and the Foundation. His responsibilities include oversight of the Foundation's endowment and deferred gift programs, the University's optional retirement program investment policy, and the operating and short-term investment funds of both the University and the Foundation. He also manages the comprehensive debt program for the University and a number of University-related corporations. Mr. Cusimano has directly managed the issuance of approximately 52 bond/debt issues for a total par amount of \$1.1 billion for both the University and the Foundation. Mr. Cusimano has a Bachelor of Finance and a Master of Business Administration from Virginia Tech.

#### **Admissions Policy and Students**

Set forth in the following table are the number of students, including freshman and transfer students, submitting applications for admission, offers extended as a percent of applications received, and new enrollment as a percentage of offers extended for the academic years 2010-11 through 2014-15. Typically, the University receives freshman and transfer applications exceeding the number of enrollees it can accommodate.

#### **Student Admissions**

	<b>2010-11</b>	2011-12	<u>2012-13</u>	<b>2013-14</b>	<u>2014-15</u>
Applications Received					
(includes transfers)					
Undergraduate	23,127	23,954	23,217	21,903	23,628
Graduate	9,190	9,465	9,544	9,627	9,474
Offers as Percentage of Applications					
Undergraduate	65.3%	64.9%	69.0%	69.7%	70.2%
Graduate	33.4%	33.3%	31.2%	31.0%	39.1%
New Enrollment as Percentage of Offers					
Undergraduate	41.6%	40.2%	40.6%	42.2%	39.1%
Graduate	60.9%	61.1%	62.5%	60.9%	60.3%

Approximately, 92.8% of students entering the University as first-time, full-time freshmen in fall 2013 returned to the University for their second year. Approximately, 60.7% of the 2010 entering class graduated within 4 years of entering the University as first-time, full-time students, 80.2% percent of the 2009 entering class graduated within 5 years of entering the University as first-time, full-time students, and 82.5% of the 2008 entering class graduated within 6 years of entering the University as first-time, full-time students.

#### **Enrollment**

The number of students as measured by fall enrollment for the last five academic years is set forth in the following table:

# Total Student Enrollment (Head Count)

	<b>2010-11</b>	<u>2011-12</u>	<u>2012-13</u>	2013-14	<u>2014-15</u>
Enrollment by Classification	· ·	·	·	·	
Undergraduate	23,690	23,700	23,859	24,034	24,247
Graduate and First Professional*	7,316	7,236	<u>7,228</u>	<u>7,171</u>	6,977
Subtotal	<u>31,006</u>	<u>30,936</u>	<u>31,087</u>	<u>31,205</u>	<u>31,224</u>
Enrollment by Campus*					
Blacksburg Campus	28,687	28,650	28,836	29,071	29,173
Northern Virginia Grad Center	1,078	1,040	1,018	925	884
Other Off-Campus Locations	<u>1,241</u>	<u>1,246</u>	<u>1,233</u>	<u>1,209</u>	<u>1,167</u>
Subtotal	<u>31,006</u>	<u>30,936</u>	<u>31,087</u>	<u>31,205</u>	<u>31,224</u>
Enrollment by Residence*					
Virginia	21,475	21,371	21,478	21,319	21,145
Other States	7,198	7,198	6,975	7,038	7,193
Other Countries	2,333	2,367	<u>2,634</u>	<u>2,848</u>	2,886
Subtotal	<u>31,006</u>	<u>30,936</u>	<u>31,087</u>	<u>31,205</u>	<u>31,224</u>

^{*} Includes Veterinary Medical students.

Approximately 72.8% of the University's undergraduate students are drawn from the Commonwealth of Virginia.

#### Relationship with the Commonwealth

As an agency and instrumentality of the Commonwealth, the University is obligated to conform its financial procedures to various constitutional and statutory provisions. Except for gifts and endowment income, substantially all the funds received by the University, including grants and contract income, constitute revenues of the Commonwealth and must be appropriated to the University by the General Assembly before the University can spend them. These revenues fall into two categories: (1) general fund revenues of the Commonwealth, primarily derived from tax revenues and (2) non-general fund revenues of the Commonwealth, primarily derived from collections by the University itself, such as tuition, fees, room and board charges, and self-generated revenues. The Constitution of Virginia provides that once non-general fund revenues are deposited into the State Treasury and subsequently returned to the University to manage, the University cannot use such revenues "except in pursuance of appropriations made by [the General Assembly]."

The General Assembly historically has appropriated general fund revenues of the Commonwealth to the University for a variety of purposes, including capital expenditures and operating expenses. The General Assembly historically has also appropriated to the University all non-general fund revenues collected by the University, including revenues derived from collections by the University itself. The power to appropriate funds is entirely within the discretion of the General Assembly. See "Financial Information – Appropriations from the Commonwealth" below.

Like other state agencies dependent upon legislative appropriations for operating revenues, the University has no assurance that the General Assembly will continue to make appropriations of general fund revenues or nongeneral fund revenues derived from operations of the University, either for capital expenditures or operating expenses, or, if such appropriations are made, that they will be made in a timely fashion or in adequate amounts to enable the University to pay debt service on the Series 2015 Bonds.

Higher Education Restructuring Legislation. In 2005, the General Assembly passed landmark legislation known as the Restructured Higher Education Financial and Administrative Operations Act (the "Restructuring Act"). The Restructuring Act provides a framework for redefining relationships between public higher education institutions and the Commonwealth. The legislation is founded upon the principles of long-term planning. In

exchange for additional authority, institutions must commit to fulfilling specific state goals in areas of access, affordability, breadth of academics, academic standards, student retention and graduation rates, articulation agreements with the Virginia Community College System, economic development, research, elementary and secondary education, and campus safety and security.

Pursuant to the Restructuring Act, the University entered into a Management Agreement (the "Management Agreement") with the Commonwealth that became effective July 1, 2006, after it was enacted by the General Assembly and approved by the Governor.

The Management Agreement improves the ability of the institution to plan over a multi-year time frame; reaffirms the Board of Visitors' authority to set tuition and fees, providing a more predictable funding stream; and provides increased delegated authority in the areas of human resources management, procurement, financial administration, capital outlay, and information technology. The Management Agreement will continue in effect unless the Governor, the General Assembly or the University determines that it needs to be renegotiated or revised.

#### FINANCIAL INFORMATION

The University's fiscal year 2014 audited financial statements and Management's Discussion and Analysis are provided in Appendix B. The University's financial statements are presented in accordance with generally accepted accounting principles ("GAAP"). The financial statements were audited by the Auditor of Public Accounts for the Commonwealth in accordance with audit standards generally accepted in the United States of America and the standards applicable to financial audits contained in the Government Auditing Standards, issued by the Comptroller General of the United States. The table below and on the following page summarize the University's financial position from the last five fiscal years. Information regarding the component units of the University, which are included in the audited financial statements in Appendix B, is shown in the subsection titled "Reporting Entity."

# Summary Statement of Net Position As of June 30,

(in thousands of dollars)

	<u>2010</u> <u>2011</u> <u>2012</u>		<u>2012</u>	2013**	<u>2014</u>
Assets:					
Current assets Capital assets, net of accumulated	\$ 296,165	\$ 372,521	\$ 388,853	\$ 404,915	\$ 413,742
depreciation	1,095,512	1,196,623	1,339,559	1,516,980	1,557,340
Other non-current assets	262,334	275,157	317,585	287,158	311,048
Total assets	\$1,654,011	\$1,844,301	\$ 2,045,997	\$ 2,209,053	\$ 2,282,130
Deferred Loss on Debt Defeasance*				\$ 6,684	\$ 6,056
Liabilities:					
Current liabilities	\$ 192,556	\$ 212,015	\$ 246,101	\$ 238,139	\$ 238,930
Non-current liabilities	412,796	455,385	510,953	543,169	513,752
Total liabilities	\$ 605,352	\$ 667,400	\$ 757,054	\$ 781,308	\$ 752,682
Deferred Gain on Debt Defeasance*				\$ 1,306	\$ 1,260
Net Position: Invested in capital assets, net of					
related debt	\$ 734,875	\$ 794,583	\$ 867,314	\$ 992,220	\$ 1,054,954
Restricted	135,313	137,002	155,981	158,254	164,987
Unrestricted	178,471	245,316	265,648	282,649	314,303
Total net position	\$ 1,048,659	\$ 1,176,901	\$ 1,288,943	\$ 1,433,123	\$ 1,534,244

^{*} Please see Note 14 of the University's audited financial statements, attached hereto as Exhibit B.

^{**} As restated.

# Statement of Revenues, Expenses, and Changes in Net Position For the Year ended June 30,

(in thousands of dollars)

Onewating Personner	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013*</u>	<u>2014</u>
Operating Revenue: Student tuition and fees, net of scholarship	\$ 285,135	\$ 311,371	\$ 337,534	\$ 360,814	\$ 383,566
allowance Federal appropriation	14,466	11,087	15,047	16,747	15,123
Federal grants and contracts	171,705	191,348	192,493	220,053	222,708
Federal ARRA grants and contracts	4,641	9,491	7,348	6,561	3,399
State grant and contracts	11,179	12,775	12,282	12,667	12,670
Local grants and contracts	14,133	13,240	13,766	12,904	13,977
Nongovernmental grants and contracts	24,401	25,418	32,126	34,705	35,871
Sales and services of educational activities	12,732	13,824	14,463	15,009	16,279
Auxiliary enterprise revenue, net of scholarship					
allowance	172,629	187,164	201,796	213,683	223,228
Other operating revenues	4,118	5,025	5,516	6,868	10,640
Total operating revenue	\$ 715,139	\$ 780,743	\$ 832,371	\$ 900,011	\$ 937,461
Operating Expense:					
Instruction	\$ 247,389	\$ 250,128	\$ 260,149	\$ 283,535	\$ 298,752
Research	232,543	271,550	280,407	302,117	308,297
Public service	74,913	79,958	85,793	97,265	102,743
Academic support	56,829	61,194	65,024	68,477	79,381
Student services	12,524	13,735	13,306	14,246 50,678	14,852
Institutional support	47,632 65,472	51,308	52,494	· · · · · · · · · · · · · · · · · · ·	58,143
Operation and maintenance of plant Student financial assistance	15,925	54,871 14,318	69,280 12,901	70,848 12,205	81,489 12,242
Auxiliary enterprises	150,933	161,955	159,564	176,334	181,532
Depreciation and amortization	62,800	66,446	77,240	81,806	91,629
Other operating expenses	318	76	147	62	90
Total operating expense	\$ 967,278	\$ 1,025,539	\$ 1,076,305	\$ 1,157,573	\$ 1,229,150
Operating Loss	(\$252,139)	(\$244,796)	(\$243,934)	(\$257,562)	(\$291,689)
Non-operating revenues (expenses):					
State appropriations	\$ 229,305	\$ 238,579	\$ 219,375	\$ 232,381	\$ 243,593
Gifts	48,542	49,063	53,980	54,438	60,489
Non-operating grants and contracts	1,755	2,097	2,973	1,660	2,615
Federal student financial aid (PELL)	13,693	17,237	16,921	16,606	16,830
Federal fiscal stabilization (ARRA)	11,531	22,455	3,468	- 405	10.050
Investment income, net	5,379	8,976	4	6,495	12,858
Other additions	456	331	424	532	684
Nongeneral fund reversion	(4,507)	(1,189)	(1,422)	(16.112)	(19.605)
Interest expense on debt related to capital assets Net non-operating revenues	\$ 291,749	(13,380) \$ 324,169	(16,425) \$ 279,298	(16,113) \$ 295,999	(18,605) \$ 318,464
1 0	\$ 291,749	\$ 324,109	\$ 279,298	\$ 293,999	\$ 318,404
Income (loss) before other revenues, expenses,	\$ 39,610	\$ 70.272	¢ 25.261	¢ 29./27	\$ 26.775
gains or losses Capital appropriations	\$ 39,610	\$ 79,373 \$ -	\$ 35,364 \$ -	\$ 38,437 (\$3,276)	\$ 26,775
Capital grants and gifts	91,193	50,491	ء - 77,995	112,287	ъ - 75,927
Gain (loss) on disposal of capital assets	(1,095)	(1,622)	(1,317)	(3,268)	(1,581)
Total other revenues	90,098	48,869	76,678	105,743	74,346
Increase in net position	129,708	128,242	112,042	144,180	101,121
Net position – beginning of year	918,951	1,048,659	1,176,901	1,288,943	1,433,123
Net position – end of year	\$1,048,659	\$ 1,176,901	\$ 1,288,943	\$ 1,433,123	\$ 1,534,244
1.55 position ond or your	Ψ1,010,007	Ψ 1,110,701	Ψ 1,200,773	Ψ 1,100,120	Ψ 1,00 1,477

^{*} As restated.

#### **Reporting Entity**

The University includes all funds and entities over which the University exercises or has the ability to exercise oversight authority for financial reporting purposes. Under Governmental Accounting Standards Board (GASB) Statement 39, Virginia Tech Foundation Inc. and Virginia Tech Services Inc. are included as component units of the University. The University presents the combined component units on the same page as University data on the Statement of Net Position and the Statement of Revenues, Expenses and Changes in Net Position in the University's audited financial statements. Both component units are separately incorporated nonprofit organizations and prepare separately audited financial statements in accordance with FASB standards. Their financial statements have been reformatted so that their line items conform with the university's GASB presentation. Limited reclassifications, such as segregating FASB total unrestricted net assets into GASB net position categories of Net Investment in Plant and Unrestricted have been made, but no other modifications such as intercompany eliminations have been made to the component unit's financial statement totals. As such, they are included in the financial statements for all years presented including fiscal year 2014, provided in Appendix B.

### Component Units Summary Statement of Net Position As of June 30,

(in thousands of dollars)

	<u>2010</u>	<u>2011</u>	<u>2012*</u>	<u>2013</u>	<u>2014</u>
Assets					
Current assets Noncurrent long-term	\$ 41,280	\$ 44,021	\$ 33,088	\$ 52,078	\$ 38,957
investments	608,251	706,474	711,379	761,007	918,333
Other Noncurrent assets	386,622	416,446	477,343	501,950	541,989
Total assets	\$1,036,153	\$1,166,941	\$1,221,810	\$1,315,035	\$1,499,279
Liabilities					
Current liabilities	\$ 38,217	\$ 30,177	\$ 41,819	\$ 48,917	\$ 42,476
Noncurrent liabilities	289,593	305,907	347,424	350,820	422,005
Total Liabilities	\$ 327,810	\$ 336,084	\$ 389,243	\$ 399,737	\$ 464,481
Net Position					
Net investment in capital assets	\$ 63,045	\$ 71,546	\$ 103,953	\$ 130,166	\$ 124,427
Restricted, Nonexpendable	327,775	369,213	387,953	408,644	428,758
Restricted, Expendable	284,278	334,035	314,680	338,638	417,071
Unrestricted	33,245	56,063	25,981	37,850	64,542
Total net position	\$ 708,343	\$ 830,857	\$ 832,567	\$ 915,298	\$1,034,798

As restated

### **Budgeting**

The University's operating expenditure budget for fiscal year 2016 totals \$1.39 billion. The operating budget includes \$724 million appropriated for education and general expenses (52%), \$338 million appropriated for sponsored programs (24%), \$302 million appropriated for auxiliary enterprises (22%), \$20 million appropriated for student financial assistance (1%), and \$8 million appropriated for other programs (1%). The major funding sources for the operating budget include tuition and fees (32%), sponsored programs (24%), auxiliary fees, sales, and services (22%), general fund appropriations from the General Assembly (18%), and all other sources of income (4%).

The University submits a general fund budget request to the Governor, for approval by the General Assembly, every two years in accordance with the Commonwealth's biennial budget process. Budget amendment requests may be made to the Governor in the off years and to the General Assembly in each year. The Commonwealth specifically appropriates general funds to the University and provides a sum sufficient non-general fund appropriation to the University. Gifts and endowment income are not funds of the Commonwealth and thus are not appropriated by the Commonwealth. Under the Restructuring Act, general funds are transferred to the University based on a regular schedule (1/24 of the appropriation, twice a month) and non-general funds are retained by the University. All unused general and non-general funds on June 30 of each year are retained by the University.

#### Appropriations from the Commonwealth

The table below summarizes the appropriations received from the Commonwealth over the last five fiscal years.

# Non-Capital Appropriations from the Commonwealth For the Year Ended June 30,

(in thousands of dollars)

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Commonwealth Appropriations	\$229,305	\$238,579	\$219,375	\$232,381	\$243,593
Percent of University revenues*	20.9%	20.6%	18.4%	17.8%	18.3%

^{*} University revenues means total operating revenues, total non-operating revenues, capital gifts and grants and gain (loss) on capital assets. See the table titled "Statement of Revenues, Expenses, and Changes in Net Position For the Year ended June 30," above.

#### **Tuition**

Tuition, room and board charges and fees at the University for the last five academic years are as follows:

#### **Tuition and Fees**

	2010-11	2011-12	2012-13	2013-14	2014-15
Undergraduate					
Virginia Residents	\$7,309	\$8,852	\$9,187	\$9,617	\$10,088
Out-of-State Residents	20,498	22,254	23,575	24,769	25,515
Graduate – On Campus					
Virginia Residents	8,783	10,048	10,677	11,185	11,656
Out-of-State Residents	17,238	19,497	20,926	22,146	23,351
Graduate – Off Campus					
Virginia Residents	9,790	11,124	11,822	12,383	12,904
Out-of-State Residents	18,525	20,902	22,435	23,737	25,028
Veterinary Medicine					
Virginia/Maryland Residents	16,125	17,444	18,163	18,708	19,269
Out-of-State, Non-Maryland	38,585	40,847	42,491	43,766	44,773
Residents					
Room	\$3,654	\$4,138	\$4,448	\$4,622	\$4,762
Board	\$2,636	\$2,718	\$2,806	\$3,028	\$3,162
Fees*	\$2,150/2,719	\$1,657/2,226	\$1,736/2,340	\$1,838/2,442	\$1,929/\$2,533

^{*} Fees include the student activity fee, student health service fee, athletic fee, recreational sports fee, bus fee, student services fee, and technology fee. Out-of-state students are charged an additional capital fee, which fee was \$604 for the 2014-15 academic year.

On average the total tuition and fees for the 2015-2016 academic year increased by approximately 4% over the 2014-2015 academic year

The University offers numerous scholarships and other types of financial aid to students. Approximately 16,360 students received need-based financial aid during the fiscal year 2014. The University offers assistance to students in the form of grants, loans and employment. During the fiscal year 2014, approximately 24,561 students

received some form of financial assistance. The University is an eligible institution under numerous Commonwealth and federal student aid programs.

A summary of financial aid for fiscal years 2010 through 2014 is shown in the following table:

# Financial Aid (in millions of dollars)

#### Fiscal Year

<b>Type</b>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Loans	\$139.9	\$147.0	\$157.2	\$154.5	\$155.5
Grants	140.2	155.2	163.1	168.9	177.4
Employment	63.4	69.5	71.2	76.7	80.3
Total	\$343.5	\$371.7	\$391.5	\$400.1	\$413.2

#### **Academic Programs**

The University offers bachelor's degree programs through its seven undergraduate academic colleges. On the post graduate level, the University offers master and doctoral degree programs through the graduate school and a professional degree from the Virginia-Maryland Regional College of Veterinary Medicine. At the undergraduate level, multiple options might be available for each major. The University's eight degree granting colleges are:

College of Agriculture and Life Sciences. The College of Agriculture and Life Sciences provides an education in the science and business of life. It offers 12 majors that lead to 11 bachelor of science degrees through ten departments. The college also offers an associate degree through a two-year Agricultural Technology Program.

College of Architecture and Urban Studies. The College of Architecture and Urban Studies at the University consists of the School of Architecture + Design, the School of Public and International Affairs, the Mylers-Lawson School of Construction and the School of Visual Arts. Programs offered include architecture, art and art history, building construction engineering and management, public administration and policy, interior design, industrial design, landscape architecture, government and international affairs, and urban affairs and planning. All of these programs strive to promote an understanding of the complexity of the environment and ways to improve that environment through thoughtful teaching and research in the design, planning, and construction fields. The College of Architecture and Urban Studies enrolls approximately 1,900 students, offering 21 degrees programs taught by 133 faculty members.

**R. B. Pamplin College of Business.** Students in the R. B. Pamplin College of Business are prepared to perform in the global economy, improve competitiveness and profitability of the business community, provide professional training and expertise to public and private enterprises, and to support the continued professional development of a highly trained faculty to maintain their cutting edge knowledge and technical skills. The college is accredited by the Association for the Advancement of Collegiate Schools of Business, International.

College of Engineering. The College of Engineering has over 7,400 undergraduate students, making it one of the largest programs in the country. It offers bachelor of science degrees in 14 areas which are accredited by the Accreditation Board of Engineering and Technology. The hallmark of the undergraduate experience is the "Hands On, Minds On" philosophy that guides the curriculum development, and stretches into a host of engineering-related extracurricular activities. There are over 1,700 students in its well-renowned graduate programs, enabling it to rank in the top ten in the nation in annual expenditures on engineering research. The College of Engineering offers graduate programs for both thesis and a non-thesis master of science degree programs, a more practice-oriented master of engineering administration, a master of engineering and doctoral degree programs.

College of Liberal Arts and Human Sciences. The College of Liberal Arts and Human Sciences embraces the arts, humanities, social and human sciences, and education. The College of Liberal Arts and Human Sciences nurtures intellect and spirit, enlightens decision-making, inspires positive change and improves the quality of life for people of all ages. It is home to the School of Education, the School of Performing Arts & Cinema, the Center for Gerontology and independent departments including the following: Apparel, Housing and Resource Management,

Communication, Educational Leadership and Policy Studies, English, Foreign Languages and Literatures, History, Human Development, Religion and Culture, Music, Philosophy, Political Science, ROTC, Science and Technology in Society, Sociology, Teaching and Learning, and Theatre Arts. In addition, the college offers a doctorate program within an innovative interdisciplinary and theoretical framework that fosters critical engagement between domains of inquiry in the humanities, the social sciences, and the arts; this program is called ASPECT: Alliance for Social, Political, Ethical, and Cultural Thought.

College of Natural Resources and Environment. The College of Natural Resources and Environment offers six undergraduate degrees from four departments: Department of Fisheries and Wildlife Conservation, Department of Forest Resources and Environmental Conservation, Department of Geography and the Department of Sustainable Biomaterials. Graduate degrees (master or doctorate) are offered in Forestry and Forest Products, Fisheries and Wildlife, Geography, and Geospatial and Environmental Analysis. In addition, the college offers a master of forestry degree and a master of natural resources degree.

The College of Science. The College of Science offers 13 baccalaureate degrees encompassing the mathematical, psychological, and natural sciences. The college offers programs in cutting-edge areas including, among others, those in energy and the environment, developmental science across the lifespan, infectious diseases, computational science, nanoscience, and neuroscience. In addition, the College of Science offers an innovative science, technology and law program that equips students with a diversified skill set that enables them to succeed outside traditional career paths and raises their awareness of unique legal, social, and ethical challenges in the 21st century.

The Virginia-Maryland Regional College of Veterinary Medicine. The Virginia-Maryland Regional College of Veterinary Medicine offers master or doctorate degrees in Biomedical and Veterinary Sciences. The primary objective of these graduate programs is to prepare graduate students as scholars who will expand the base of new veterinary and biological knowledge. In addition, the college offers a master of public health degree which is grounded in an interdisciplinary approach that recognizes the dynamic interdependence of human, anima, and environmental health. Finally, the college offers a doctorate in veterinary medicine.

The University has a Cooperative Education Program, which allows students to alternate semesters of study with semesters of professional work during the sophomore and junior years. An Honors Program is available for qualified, motivated students and supports students' efforts to take advantage of all that a major research university offers through special sections of regular classes, seminars, and independent study. The Global Education Office challenges students to engage with the world by providing study abroad opportunities that are academically, culturally, and personally enriching. These opportunities include academic programs, tours, and independent travel, conducted in conjunction with overseas universities and institutions. Army, Air Force, and Navy ROTC programs are offered to students enrolled in the corps.

#### **Related Foundation**

The Virginia Tech Foundation, Inc. (the "Foundation", or the "Virginia Tech Foundation"), is a 501(c)(3) not-for-profit corporation, established in 1948 to receive, invest, manage and disburse private funds given by alumni and friends of the University to enhance the quality of the University's programs. The Foundation's stated mission is to "promote and foster growth, progress, and the general welfare" of the University.

The Virginia Tech Foundation issues separately audited financial statements in accordance with Financial Accounting Standards Board ("FASB") pronouncements. Total assets of the Foundation and its subsidiaries as of June 30, 2014, were \$1,488.8 million. Of that amount, \$978.2 million comes from investments, \$299.3 million comes from land and buildings, including the Hotel Roanoke, the Corporate Research Center, and other real estate holdings throughout the Commonwealth, \$82.6 million comes from receivables on contributions, \$68.3 million comes from net investment in direct financing leases, \$40.8 million comes from notes, deeds of trust and irrevocable trusts held by others, \$11.7 million comes from trade accounts, interest receivable, inventories, and prepaid expenses, \$5.3 million comes from vintage and collection items, and \$2.6 million reflects other assets. Notes and bonds payable totaled \$277.3 million. Of the \$1,030.4 million net assets of the Foundation, \$184.5 million were categorized as unrestricted, \$417.1 million as temporarily restricted, and \$428.8 million as permanently restricted. The Foundation has no obligation to make payments on the Series 2015 Bonds, and the University has no obligation to make payments on the Foundation's debt obligations.

#### **Investment and Related Endowment Performance**

The University benefits from the Foundation and other types of funds that provide support for the University's academic programs and related cultural and athletic activities above and beyond those funds appropriated by the Commonwealth for use by the University. As of June 30, 2014, the market value of the Foundation's endowment funds totaled \$796.4 million, of which \$96.4 million represents the University's quasi-endowment funds. The endowment value per full time student was approximately \$25,506 for 2014. As of June 30, 2015, the market value of the Foundation's endowment funds totaled approximately \$817.8 million.

The endowment program is managed by the Virginia Tech Foundation and has grown from \$46 million in 1985 to \$817.8 million on June 30, 2015. Investment management of the Foundation's assets is overseen by an Investment Committee, which is a standing committee of the Virginia Tech Foundation's Board of Directors. Policy on endowment management is made by the Investment Committee, whose main focus is setting the overall asset allocation ranges of the endowment and its spending policy. The Foundation's investment staff manages asset allocation decisions, the selection and retention of investment managers, and performance monitoring. endowment's investment policy is structured to maximize the total return of the portfolio within defined levels of risk. The endowment program is fully diversified across asset classes and investment styles that include public equity, long-short equity, private equity, real estate, natural resources, government bonds, absolute return, credit, and cash. The endowment program's target asset allocation is 60% to equities, 30% to fixed income and 10% to real assets. As of June 30, 2015, the actual allocation was 61.6% to equities, 25.7% to fixed income and 12.7% to real assets. The endowment's spending policy incorporates an annual adjustment to program support that is pegged to the Consumer Price Index and measured against a three-year average of endowment values to ensure that spending falls within the approved range as set by the Investment Committee. For the year ending June 30, 2014 the endowment program's total return of 19.7% outperformed the benchmark return of 16.4%. Over the trailing three and five-year periods, the endowment program achieved returns of 10.8% and 12.7% compared to the benchmark returns of 8.7% and 11.8%, respectively. For the year ending June 30, 2015 the endowment program's preliminary total return of 4.4% outperformed the benchmark return of 1.5%. Over the trailing three and five-year periods, the endowment program achieved returns of 12.8% and 11.2% compared to the benchmark returns of 9.7% and 9.6%, respectively.

#### **Private Support and Development Efforts**

The University continues to benefit from the generosity of alumni and friends, foundations, and corporations. The University concluded its last major capital campaign in June of 2011. The campaign target of \$1 billion was exceeded, with total charitable gifts of \$1.1 billion. The outstanding success of the campaign reflects not only the loyalty and affection of Virginia Tech's alumni, but also the reputation of the University and its stature among the top research institutions in the country. Virginia Tech's fundraising efforts are supported by an aggressive and sophisticated development operation. The University believes that with the new Vice President for Advancement partnering with the bold vision of the President, the synergy of development, communications, and alumni relations will bolster philanthropic engagement as Virginia Tech moves forward with an even more robust fundraising agenda. The focus on building the endowment will allow the University to create opportunities to accomplish key objectives aligned with enrollment growth, attraction and retention of superior faculty, and the long-term financial health of the institution.

During fiscal year 2014, Virginia Tech received \$80.1 million in private gifts and pledges. Contributions reported in the Virginia Tech Foundation's audited financial statements are stated in accordance with GAAP, and the Office of University Development reports fund raising totals based on the Council for Advancement and Support of Education ("CASE") standards. For fiscal year 2014, contributions were reported in the Foundation's audited financial statements as \$81.1 million, which was slightly more than the Office of University Development reported total of \$80.1 million. Over the past five years, CASE gifts and pledges have averaged \$84.1 million annually. Total CASE gift income over the last five years is as follows:

# Fiscal Year Fund Raising Results (in millions of dollars)

<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
\$81.8	\$92.2	\$76.2	\$90.0	\$80.1

#### **Grants and Contracts**

In fiscal year 2014, the federal government accounted for approximately 78% of total sponsored program expenditures, followed by commercial sources at approximately 11%, Commonwealth of Virginia sources at approximately 5%, the Virginia Tech Foundation at approximately 4%, and all other sources at approximately 2%. Of the federal government sources of sponsored program expenditures, the National Science Foundation accounted for approximately 19%, the Department of Health and Human Services accounted for approximately 18%, the Department of Defense accounted for approximately 15%, the Department of Transportation accounted for approximately 7%, the United States Agency for International Development accounted for approximately 7%, the Department of Agriculture accounted for approximately 6% and other federal agencies and funds received as subawards accounted for the balance. The outlook for future federal funding of research is an area of focus for the University. The University is taking steps to manage the changing environment for federal funding by identifying potential alternative funding sources and taking steps to increase the number of successful proposals.

# Grants and Contracts For the Year Ended June 30,

(in thousands	of dollars)
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	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Federal grants and contracts	\$112,202	\$137,268	\$129,940	\$143,484	\$141,153
Other	120,341	134,282	150,467	158,633	167,144
Total grants and contracts	\$232,543	\$271,550	\$280,407	\$302,117	\$308,297

#### The Systems

The following is a general description of each of the Systems as they presently exist. Each of the Systems Resolutions permits the University to add and remove facilities from the respective Systems under the circumstances described therein. See "Exclusions from and Additions to Revenues" in each of Appendices C, D, E and F.

The Dormitory and Dining Hall System. The residence hall and dining system at Virginia Tech provides services for one of the nation's largest university on-campus student populations in 47 residential facilities. During fiscal year 2014, 9,028 students lived on-campus. With the completion of Pearson Hall in fall 2015, the residential population will exceed 9,500 students. The process of assigning rooms and insuring retention maximizes occupancy levels and revenue, as well as provides access to on-campus housing for most applicants. Historically, the number of students who request housing, however, exceeds available space.

More than 99% of the first year class (approximately 6,000 in fall, 2015) is required by policy to live on campus (certain exceptions are available). Students sign a housing and dining contract for the entire academic year. A waiting list is kept to fill vacancies created by attrition during the academic year; at mid-year, a number of new, transfer and cooperative education students augment the spring semester occupancy. During the last five academic years, the residence hall system has opened above 100% occupancy and maintained an average occupancy rate of 98.6% for the 2011 academic year, 100.6% for 2012, 98.0% for 2013, 98.3% for 2014, and 99.1% for 2015 (expressed as the percentage of available spaces filled each academic year).

Dining Services is the eighth largest university dining program in the country in terms of revenue; and 1st in participation rate of dining plan sales with more than 18,400 students, faculty and staff purchasing one of six different dining plans offered. The dining system processes over 7.1 million student and non-student transactions annually in eight separate facilities. Students and customers can choose from menus prepared and served a la carte style in 39 different concepts including a few national on-site brands that are staffed with dining system employees to which Dining Services is the franchisee. The national brands include but not limited to Qdoba Mexican Grill®, Bruegger's Bagels®, Dunkin Donut®, and Au Bon Pain®. Dining Services also has one all-you-care-to-eat facility that has eight distinct food stations. The dining program has been in the Princeton Review Top 4 for college and university food service for Best Campus Food 9 consecutive years while obtaining number one in 2008, 2010 as well as the most current year 2015. In August of 2012, Dining Services opened Turner Place at Lavery Hall, the first

dining center located centrally within the academic side of campus. The 830-seat facility added 8 new concepts to Dining's portfolio, and provides services to over 1.7 million transactions in a traditional academic year.

The Senior Associate Vice President for Student Affairs is responsible for the following departments: facilities, housing and residence life, dining services, staffing, student conduct, fraternity and sorority life, and reports to the Vice President for Student Affairs. All of these functions are consolidated in one area with combined administrative, human resource, public relations, information technology and business management support. The department employs about 520 full-time, salaried staff, and another 2,000 general and student wage employees. Approximately 45.2% of the annual operating budget is supported by the housing and the remaining 54.8% by the dining auxiliary budgets. Revenues, expenses and fund balance of the Dormitory and Dining Hall System for the last five fiscal years are presented in the following table.

#### Dormitory and Dining Hall System Revenues, Expenses and Fund Balance Cash Basis Totals For the Fiscal Year Ended June 30,*

(in thousands of dollars)

	2010	2011	2012	2013	2014
Total Revenues (Auxiliary plus Trustee)	\$77,579	\$81,928	\$87,244	\$99,876	\$104,838
Total Expenses	57,806	60,736	64,674	71,869	73,786
Net Revenues	19,773	21,192	22,570	28,007	31,052
Total Debt Service	(10,158)	(11,867)	(15,739)	(16,931)	(16,148)
Non-Mandatory Transfers	(1,044)	(666)	(6,462)	(10,337)	(10,377)
Increase (Decrease) in Fund Balance	8,571	8,659	369	739	4,527
Fund Balance:					
Beginning of Year	\$27,612	\$36,183	\$44,842	\$45,211	\$45,950
End of Year	\$36,183	\$44,842	\$45,211	\$45,950	\$50,477

^{*} The financial data presented in this table is unaudited and prepared on a cash basis and not on a GAAP accrual basis.

The Athletic Facilities System. More than 500 student-athletes in a total of 22 varsity sports (11 for men and 11 for women) participate in the University's athletic programs. More than 370 of the University's student-athletes receive scholarship support. The varsity sports include baseball, basketball, cross country, football, golf, lacrosse, soccer, softball, swimming & diving, tennis, track & field, volleyball, and wrestling. Student-athletes at the University presently compete at the Division I level of the NCAA in the ACC for all sports. The University's Athletic Facilities System includes a 66,233-seat football stadium, a 120,000 square foot indoor football practice facility, a 9,847-seat basketball coliseum, a 49,000 square foot basketball practice facility for both the men's and women's basketball programs, an indoor field house for indoor Olympic sports, a soccer/lacrosse stadium, baseball and softball stadiums with indoor hitting facilities, an indoor/outdoor tennis facility, an outdoor track facility, strength and conditioning gymnasiums, training rooms, rehabilitation, counseling, and academic support centers, locker rooms, and administrative offices.

The athletic department is responsible for all aspects of the administration of the athletic programs, student scholarships, program finances, and the maintenance of the University's athletics in accordance with NCAA guidelines and university and state policies. The athletic department employs 192 salaried staff (including coaches), 60 student assistants on scholarships and approximately 200 full- or part-time wage employees throughout the year.

The Athletic Facilities System is supported largely by income from football and basketball ticket sales, conference and licensing revenue sharing agreements, NCAA allocations, private contracts for exclusive broadcasting rights, game concessions, and private gifts. Approximately, 13.8% of the Athletic Facilities System's income for fiscal year 2015 is expected to come from a \$288 comprehensive fee assessed to each University student annually. Revenue generated from this fee supports a portion of athletic operating expenses, existing debt service on facilities, and the maintenance of facilities. Revenue generated from this per student fee was \$8,353,204 for fiscal year 2015. As with all auxiliary enterprises operated within the state-assisted public universities, the Athletic Facilities System is self-supporting. In accordance with state guidelines, the University charges the Athletic Facilities System an administrative fee for indirect costs incurred on its behalf. These charges were \$4,461,300 for

fiscal year 2015. Revenues, expenses and fund balance of the Athletic Facilities System for the last five fiscal years are presented in the following table.

#### Athletic Facilities System Revenues, Expenses and Fund Balance Cash Basis Totals For the Fiscal Year Ended June 30,*

(in thousands of dollars)

	2010	2011	2012	2013	2014
Total Revenues (Auxiliary plus Trustee)	\$50,393	\$52,356	\$53,865	\$54,920	\$56,795
Total Expenses	39,931	40,856	43,528	46,904	50,562
Net Revenues	10,462	11,500	10,337	8,016	6,233
Total Debt Service	(5,263)	(5,698)	(5,737)	(5,445)	(5,443)
Non-Mandatory Transfers	(9,244)	(3,609)	(1,062)	(1,299)	(1,243)
Increase (Decrease) in Fund Balance	(4,045)	2,193	3,538	1,272	(453)
Fund Balance:					
Beginning of Year	\$39,904	\$35,859	\$38,052	\$41,590	\$42,862
End of Year	\$35,859	\$38,052	\$41,590	\$42,862	\$42,409

^{*} The financial data presented in this table is unaudited and prepared on a cash basis and not on a GAAP accrual basis.

The University Services System. Virginia Tech created a student-related University Services System in 1996 with revenues that were initially derived from three auxiliary enterprises: Recreational Sports, Student Health Services and Student Centers (renamed Student Activities). Each semester, students are required to pay a comprehensive fee for related student activities. The fiscal year 2014 comprehensive fees assessed per student to support the debt service and operations sponsored by the University Services System are \$282 for Recreational Sports, \$388 for Student Health Services and \$486 for Student Activities. In 2010, the University created a new auxiliary enterprise: Center for the Arts (which had a per student fee of \$159 in fiscal year 2014 to support the debt service and operations sponsored by the University Services System).

The programs and activities generating revenue for the University Services System include McComas Hall, two student centers, a career services facility and the Center for the Arts. In 1998, a 61,000 square foot wellness and recreation center known as McComas Hall, and in 2010 a 25,000 square foot expansion to this facility was opened. This facility serves the student's needs by providing a wide variety of recreational, fitness, health and sport activities. There are currently two student centers located on the main campus. The facilities serve as the center for student government operations and student activity programs. The original "Squires Hall" was constructed in 1937 and contained 54,366 square feet. The University renovated the original building in 1969 and again in 1988, which added additional space of 108,482 and 72,400 square feet, respectively. In 1992 the University constructed a second student center totaling 24,556 square feet to facilitate students residing in that area of the campus. During 2004, the University completed a roughly 22,000 square foot Career Services Facility within the University Services System, which accommodates the needs of students and recruiters, and improves the University's ability to meet the employment needs of the student and prospective employer. The Center for the Arts supports cultural enrichment and the presence and practice of the arts (beyond academic programs) across campus for all students. Revenues, expenses and fund balance of the University Services System for the last five fiscal years are presented in the following table.

#### University Services System Revenues, Expenses and Fund Balance Cash Basis Totals For the Fiscal Year Ended June 30,*

(in thousands of dollars)

	2010	2011	2012	2013	2014
Total Revenues (Auxiliary plus Trustee)	\$28,633	\$31,519	\$34,589	\$36,580	\$43,810
Total Expenses	21,037	23,253	24,987	26,818	29,864
Net Revenues	7,596	8,266	9,602	9,762	13,946
Total Debt Service	(2,881)	(3,649)	(4,898)	(5,967)	(6,408)
Non-Mandatory Transfers	(1,068)	(4,604	(1,960)	(1,563)	(1,880)
Increase (Decrease) in Fund Balance	3,647	13	2,744	2,232	5,658
Fund Balance:					
Beginning of Year	\$11,627	\$15,274	\$15,287	\$18,031	\$20,263
End of Year	\$15,274	\$15,287	\$18,031	\$20,263	\$25,921

^{*} The financial data presented in this table is unaudited and prepared on a cash basis and not on a GAAP accrual basis.

**The Utility System.** The Utility System is a local electric utility owned and operated by the University, which furnishes electrical power to the University campus and to more than 6,000 residential, commercial and industrial customers in the Town of Blacksburg, Virginia. At present, power is supplied to the Utility System's users from substations containing transformers and associated equipment which feeds power through 33 distribution circuits to the various users of the Utility System.

Electrical power is obtained by the University from Appalachian Power Company ("APCo") according to the terms of a Wholesale Electric Service Contract executed on June 28, 2007. The University pays APCo each month in accordance with the cost based contract, which is on file with the Federal Energy Regulatory Commission ("FERC"). In turn, the University bills its residential, commercial and industrial customers in the Town of Blacksburg, Virginia at "retail" rates similar to those charged by APCo to its residential, commercial and industrial customers; however, these retail rates are based on the expenses to serve Town of Blacksburg retail customers projected in the annual approved Utility System budget. The Utility System bills the University for its consumption of power with rates based on the expenses to serve the campus projected in the annual approved Utility System budget. APCo's retail electric rates are subject to approval by the Virginia State Corporation Commission. Revenues, expenses and fund balance of the Utility System for the last five fiscal years are presented in the following table.

#### Utility System Revenues, Expenses and Fund Balance Cash Basis Totals For the Fiscal Year Ended June 30,*

(in thousands of dollars)

_	2010	2011	2012	2013	2014
Total Revenues (Auxiliary plus Trustee)	\$27,829	\$32,038	\$34,939	\$34,518	\$35,026
Total Expenses	27,077	30,005	31,674	30,036	32,495
Net Revenues	752	2,033	3,265	4,482	2,531
Total Debt Service	(461)	(439)	(440)	(457)	(451)
Non-Mandatory Transfers	(334)	(386)	(491)	(594)	(659)
Increase (Decrease) in Fund Balance	(43)	1,208	2,334	3,431	1,421
Fund Balance:					
Beginning of Year	\$7,991	\$7,948	\$9,156	\$11,490	\$14,921
End of Year	\$7,948	\$9,156	\$11,490	\$14,921	\$16,342

^{*} The financial data presented in this table is unaudited and prepared on a cash basis and not on a GAAP accrual basis.

#### Indebtedness and other Obligations

*Outstanding Obligations*. At June 30, 2014, the University had approximately \$517.3 million in total bonds, notes and commercial paper outstanding.

#### University Indebtedness As of June 30, 2014

(in thousands of dollars)

Description	Amount
Revenue Bonds	
Series 2004A	\$ 7,870 ⁽¹⁾
Series 2004B	280(1)
Series 2004C	$3,455^{(1)}$
Series 2004D	980(1)
Commonwealth of Virginia General Obligation Bonds ⁽²⁾	162,019
Notes Payable to the Virginia College Building Authority ("VCBA") ⁽³⁾	264,758
Capital Leases Payable	66,718
Other ⁽⁴⁾	33
Subtotal	\$506,113
Tax Exempt Commercial Paper	\$ 11,205
Total Debt	\$517,318

⁽¹⁾ The Series 2004 Bonds will be redeemed or refunded as of the delivery date of the Series 2015 Bonds. See "THE PLAN OF FINANCE."

(3) The VCBA Notes (the "VCBA Notes") listed above are outstanding notes of the University purchased by the VCBA with proceeds of bonds issued by the VCBA under Article X, Section 9(d) of the Constitution of Virginia and are secured only by a pledge of the Pledged General Revenues of the University. The University currently plans to use proceeds from the individual systems to fund debt service payments on the VCBA Notes. As of June 30, 2014, (i) \$19,671,000 of the existing debt relating to the VCBA Notes was being funded with revenues of the Dormitory and Dining Hall System, (ii) \$59,178,000 of the existing debt relating to the VCBA Notes was being funded with revenues of the University Services System, (iii) \$3,188,000 of the existing debt relating to the VCBA Notes was being funded with revenues of the Utility System and (iv) \$57,958,000 of the existing debt relating to the VCBA Notes was being funded with revenues of the Athletic Facilities System. See Footnote 13 in the University's financial statements attached as Appendix B.

(4) The "Other" category reflects the University's obligations under installment purchase obligations for equipment.

The University has authorized a commercial paper program in an amount not to exceed \$50 million. As of May 31, 2015 there was \$29.8 million of commercial paper outstanding. Following application of the proceeds of the Series 2015 Bonds, approximately \$______ million of commercial paper will remain outstanding.

The Commonwealth of Virginia General Obligation Bonds listed above are bonds issued by the Commonwealth under Article X, Section 9(c) of the Constitution of Virginia ("Section 9(c) Bonds") and are secured by both (i) a general obligation of the Commonwealth and (ii) a pledge of net revenues of the facility or system at the University financed in whole or part with such bonds that is senior to the General Revenue Pledge securing the Series 2015 Bonds. Section 9(c) Bonds can be issued only after certification by the Governor, "Based upon responsible engineering and economic estimates, that the anticipated net revenues to be pledged to the payment of principal of and interest on such debt will be sufficient to meet such payments as the same become due and to provide such reserves as the law authorizing such debt may require." At the time of the issuance of such bonds the University was required to deliver a financial feasibility study prepared by the University indicating that the net revenues pledged to such bonds would be sufficient to pay all debt service on such bonds. Such net revenues have at all times been sufficient to pay such debt service, and the University continues to believe that such revenues will be sufficient for such payments in the future. As of June 30, 2014, \$133,359,000 of the Section 9(c) Bonds currently outstanding are secured by a pledge of the Net Revenues of the Dormitory and Dining Hall System on a parity with the pledge of the Net Revenues of the Dormitory and Dining Hall System securing the Series 2015A Bonds when issued. See Footnote 13 in the University's financial statements attached as Appendix B.

Two series of University obligations listed in the preceding table were structured as "Build America Bonds" under the American Recovery and Reinvestment Act of 2009 (one obligation related to Commonwealth of Virginia general obligation bonds and one obligation related to the notes payable to the VCBA). Under federal sequestration, there has been a partial reduction in the federal subsidy on such bonds. The University does not currently believe that the reduction in federal subsidies will have a material adverse effect on its ability to pay debt service on the Series 2015 Bonds.

The University makes annual required contribution payments to pension plans and other post-employment benefit plans administered by the Virginia Retirement System (the "VRS"). See Notes 18 and 19 in the audited financial statements contained in Appendix B for a full discussion of the pension plans and other post-employment benefit plans in which University employees participate.

The VRS does not currently measure assets and pension benefit obligations separately for individual state institutions. New accounting standards are expected to have a significant impact on the University's reported financial position and results of operations. GASB Statement No. 68, Accounting and Financial Reporting for Pensions, which is effective for fiscal year 2015, requires governments that participate in defined benefit pension plans to report in the statement of net position a net pension liability, which is the difference between the present value of the total pension liability and the pension plans's fiduciary net position. For cost-sharing employers, the net pension liability is equal to the employer's proportionate share of the collective net pension liability for the plan. Based on information provided in the most recently available financial reports for the pension plans, University management anticipates that Statement No. 68 will result in the recognition of significant long-term liabilities in the University's financial statements and a corresponding decrease in unrestricted net position.

**Debt Service Requirements.** The tables on the following pages set forth the estimated annual debt service requirements payable by the University on the Series 2015 Bonds and its existing long-term debt, net of the Series 2004 Bonds refunded or redeemed by the University on the delivery date of the Series 2015 Bonds.

# **Debt Service Requirements – Series 2015 Bonds**

		Series 2015A		ries 15B	Se 20	ries 15C	Ser 201	ries 5D	Ser 201	ries .5E	All Series
Fiscal Year	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Total
2016											
2017											
2018											
2019											
2020											
2021											
2022											
2023											
2024											
2025											
2026											
2027											
2028											
2029											
2030											
2031											
2032											
2033											
2034											
2035											
TOTAL											

# **Debt Service Requirements – All Long-Term Obligations**

Existing Debt Service ¹			Series 2015 Bonds		<b>Total Debt Service</b>				
Fiscal Year	Principal	Interest	Total	Principal	Interest	Total	Principal Total	Interest Total	Total Debt Service
2016	\$26,411,965	\$20,125,278	\$46,537,243						
2017	27,336,919	18,761,309	46,098,228						
2018	26,919,670	17,456,273	44,375,943						
2019	27,898,559	16,177,388	44,075,947						
2020	28,265,189	14,880,162	43,145,351						
2021	26,528,030	13,674,263	40,202,293						
2022	26,571,306	12,351,719	38,923,025						
2023	26,772,107	11,101,961	37,874,068						
2024	27,329,320	9,858,544	37,187,863						
2025	27,974,963	8,663,624	36,638,587						
2026	29,249,466	7,455,121	36,704,587						
2027	29,415,324	6,185,835	35,601,160						
2028	26,451,700	4,919,208	31,370,908						
2029	23,107,067	3,776,399	26,883,467						
2030	17,205,171	2,803,902	20,009,073						
2031	11,870,648	2,109,039	13,979,687						
2032	9,180,676	1,619,808	10,800,483						
2033	7,985,450	1,246,844	9,232,293						
2034	7,393,584	903,807	8,297,390						
2035	5,893,581	560,877	6,454,458						
2036	6,138,533	294,115	6,432,648						
2037	2,135,000	106,800	2,241,800						
2038	930,000	41,850	971,850						
TOTAL	\$448,964,226	\$175,074,126	\$624,038,352						

⁽¹⁾ Excludes Series 2004 Bonds refunded or redeemed on the delivery date of the Series 2015 Bonds.

#### Litigation

There is no litigation pending in any court or, to the best knowledge of the University, threatened, questioning the corporate existence of the University, or that would restrain or enjoin the issuance or delivery of the Series 2015 Bonds, or that concerns the proceedings of the University taken in connection with the Series 2015 Bonds or the pledge or application of the Pledged General Revenues of the University or the Net Revenues of each System for the payment of the Series 2015 Bonds to which they are pledged, or which contests the powers of the University with respect to the foregoing.

# APPENDIX B

# FINANCIAL STATEMENTS OF VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

# APPENDIX C

# SUMMARY OF THE SERIES 2015A BONDS RESOLUTION

# APPENDIX D

# SUMMARY OF THE SERIES 2015B BONDS RESOLUTION

# APPENDIX E

# SUMMARY OF THE SERIES 2015C BONDS RESOLUTION

# APPENDIX F

# SUMMARY OF THE SERIES 2015D BONDS RESOLUTION

# APPENDIX G

# SUMMARY OF THE SERIES 2015E BONDS RESOLUTION

# APPENDIX H

# FORM OF OPINION OF BOND COUNSEL

# APPENDIX I

# FORM OF CONTINUING DISCLOSURE AGREEMENT

# CONTINUING DISCLOSURE AGREEMENT

This <b>CONTINUING DISCLOSURE AGREEMENT</b> is dated, 2015 (the "Disclosur Agreement"), and made by Virginia Polytechnic Institute and State University (the "University") in connection wit the issuance by the University of its Bonds, as hereinafter defined. The University hereby covenants and agrees a follows:
Section 1. Purpose. The University is entering into this Disclosure Agreement for the benefit of the Holders, as hereinafter defined, and in order to assist the purchasers of the Bonds in complying with the provision of Section (b)(5)(i) of Rule 15c2-12 (the "Rule") promulgated by the Securities and Exchange Commission be agreeing to provide certain annual financial information and notice of the events listed in the Rule (collectively "Continuing Disclosure"). The University acknowledges that it is undertaking primary responsibility for an reports, notices or disclosures that are required under this Disclosure Agreement.
<b>Section 2. Definitions.</b> Capitalized terms used in this Disclosure Agreement shall have the following meanings:
"Annual Information" for a Series of Bonds means:
(i) Audited financial statements of the University, prepared in accordance with generall accepted accounting principles.
(ii) To the extent such items are not contained in the audited financial statements required b (i) above (A) the Series Specific Information, as hereinafter defined, for each Series of Bonds (except for the Series 2015E Bonds, for which no Series Specific Information is required) and (B) financial an operating data for the University that is contained in the tables and charts in Appendix A of the Official Statement listed below:
[(1) Student Admissions] [(2) Total Student Enrollment (Head Count)] [(3) Summary Statement of Net Position – As of June 30] [(4) Statement of Revenues, Expenses and Changes in Net Position for the Year ended June 30] [(5) Component Units – Summary Statement of Net Position – As of June 30] [(6) Non-Capital Appropriations from the Commonwealth for the Year Ended June 30 (but only the dollar amount of Commonwealth Appropriations)] [(7) Tuition and Fees] [(8) Financial Aid]
"Bonds" means the Series 2015A Bonds, the Series 2015B Bonds, the Series 2015C Bonds, the Series 2015D Bonds and the Series 2015E Bonds.
"Fiscal Year" means the 12-month period beginning on July 1 and ending on June 30 of each year.
"Holder" means, for purposes of this Disclosure Agreement, any person who is a record owner or beneficial owner of a Bond, from time to time.
"MSRB" means the Municipal Securities Rulemaking Board established in accordance with the provision of Section 15B(b)(1) of the Securities Exchange Act of 1934, as amended, or any successor thereto or to th functions of the MSRB contemplated by this Disclosure Agreement.
"Official Statement" means the University's Official Statement dated, 2015 with respect to the offering and sale of the Bonds.
"Series 2015A Bonds" means the University's \$ Dormitory and Dining Hall System an

General Revenue Pledge Bonds, Series 2015A.

"Series 2015B Bonds" means the University's \$ Revenue Pledge Bonds, Series 2015B.	Athletic Facilities System and General
"Series 2015C Bonds" means the University's \$ Revenue Pledge Bonds, Series 2015C.	University Services System and General
"Series 2015D Bonds" means the University's \$Bonds, Series 2015D.	_ Utility System and General Revenue Pledge
"Series 2015E Bonds" means the University's \$ Series 2015E.	_ General Revenue Pledge Refunding Bonds,

"Series Specific Information" means, for the specified Series of Bonds, the financial and operating data for the University that is contained in the table in Appendix A of the Official Statement listed below:

Series of Bonds	Title of Table
Series 2015A Bonds	Dormitory and Dining Hall System Revenues, Expenses and Fund
	Balance Cash Basis Totals For the Fiscal Year Ended June 30,
Series 2015B Bond	Athletic Facilities System Revenues, Expenses and Fund Balance
S	Cash Basis Totals For the Fiscal Year Ended June 30,
Series 2015C Bonds	University Services System Revenues, Expenses and Fund Balance
	Cash Basis Totals For the Fiscal Year Ended June 30,
Series 2015D Bonds	Utility System Revenues, Expenses and Fund Balance Cash Basis
	Totals For the Fiscal Year Ended June 30,

- **Section 3. Obligations of the University.** (a) For each Series of Bonds, the University shall provide to the MSRB the applicable Annual Information with respect to each Fiscal Year on or before the January 31 following the end of such Fiscal Year (subject to subsection (e) below), commencing with the Annual Information for Fiscal Year 2015.
- (b) The University may include the Annual Information for any Series of Bonds by specific reference to other documents provided to the MSRB or filed with the Securities and Exchange Commission; provided, however, that any final official statement incorporated by reference must be available from the MSRB. If the University elects to include information by specific reference, the University shall file with the MSRB notice of its incorporation by reference of such information.
- (c) The University shall provide in a timely manner to the MSRB notice specifying any failure of the University to provide the Annual Information by the date specified.
- (d) The University shall provide to the MSRB, in a timely manner not in excess of ten business days after the occurrence of the event, notice of any of the following events that may from time to time occur with respect to a Series of Bonds:
  - (i) principal and interest payment delinquencies;
  - (ii) non-payment related defaults, if material;
  - (iii) unscheduled draws on debt service reserves reflecting financial difficulties;
  - (iv) unscheduled draws on any credit enhancement reflecting financial difficulties;
  - (v) substitution of credit or liquidity providers, or their failure to perform;

[&]quot;Series of Bonds" means any one of the series of bonds that comprise the Bonds.

- (vi) adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of such Series of Bonds, or other material events affecting the tax status of such Series of Bonds;
  - (vii) modifications to rights of Holders, if material;
  - (viii) bond calls, if material, and tender offers;
  - (ix) defeasances;
- (x) release, substitution, or sale of property securing repayment of such Series of Bonds, if material;
  - (xi) rating changes;
  - (xii) bankruptcy, insolvency, receivership or similar event of the University;
- (xiii) the consummation of a merger, consolidation, or acquisition involving the University or the sale of all or substantially all of the assets of the University, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; and
- (xiv) appointment of a successor or additional trustee or the change of name of a trustee, if material;

provided that nothing in this subsection (d) shall require the University to maintain any debt service reserve, credit enhancement or credit or liquidity providers with respect to any Series of Bonds or to pledge any property as security for repayment of any Series of Bonds.

- (e) The University shall notify the MSRB of any change in its Fiscal Year not later than the first date on which it first provides any information to the MSRB after such change in Fiscal Year. Notwithstanding Section 3(a), if the University changes its Fiscal Year, then the University shall provide its Annual Information on or before the last day of the seventh month after then end of its then Fiscal Year.
- **Section 4. Termination.** The obligations of the University hereunder for a Series of Bonds will terminate upon the redemption, legal defeasance or payment in full of such Series of Bonds.
- **Section 5. Defaults.** (a) If the University fails to comply with any covenant or obligation hereunder any Holder then outstanding may, by notice to the University, proceed to protect and enforce its rights and the rights of the Holders by an action for specific performance of the University's obligations under this Disclosure Agreement.
- (b) Notwithstanding anything herein to the contrary, a default under this Disclosure Agreement (i) shall not be deemed to constitute an event of default under any Series of Bonds or the resolutions providing for the issuance of any of the Series of Bonds, and (ii) shall not give rise to any right or remedy other than that described in Section 5(a) above.
- **Section 6.** Additional Disclosure. The University may from time to time disclose certain information and data in addition to the Continuing Disclosure. Notwithstanding anything herein to the contrary, the University shall not incur any obligation to continue to provide, or to update, such additional information or data.
- **Section 7. Amendment.** The University may modify its obligations hereunder without the consent of Holders or any other party, provided that this Disclosure Agreement as so modified complies with the Rule as it exists at the time of modification.

- **Section 8. Identifying Information.** Any documents provided to the MSRB under this Disclosure Agreement shall be accompanied by identifying information as prescribed by the MSRB.
- **Section 9. Governing Law.** This Disclosure Agreement shall be construed and enforced in accordance with the laws of the Commonwealth of Virginia.

**IN WITNESS WHEREOF**, the undersigned is signing this Continuing Disclosure Agreement on behalf of Virginia Polytechnic Institute and State University as of the date and year above first written.

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
By: Its:

# VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY Revenue Bonds, Series 2015

consisting of

Dormitory and Dining Hall System and General Revenue Pledge Bonds, Series 2015A

Athletic Facilities System and General Revenue Pledge Bonds, Series 2015B University Services System and General Revenue Pledge Bonds, Series 2015C

Utility System and
General Revenue Pledge Bonds,
Series 2015D

General Revenue Pledge Refunding Bonds, Series 2015E

#### BOND PURCHASE AGREEMENT

_____, 2015

Virginia Polytechnic Institute and State University c/o University Treasurer 210B Burruss Hall Blacksburg, Virginia 24061

Ladies and Gentlemen:

Merrill Lynch, Pierce, Fenner & Smith Incorporated on behalf of itself and as representative (the "Representative") of Davenport & Company LLC, Morgan Stanley & Co., LLC and Wells Fargo Bank, National Association (collectively, with the Representative, the "Underwriters") hereby offers to enter into this Bond Purchase Agreement (the "Purchase Agreement") with Virginia Polytechnic Institute and State University (the "University"), whereby the Underwriters will purchase and the University will sell the above referenced bonds (the "Bonds"). The Underwriters are making this offer subject to the acceptance by the University at or before 5:00 P.M., Eastern Time, on the date hereof. If the University accepts (by signing) this Purchase Agreement, this Purchase Agreement will be in full force and effect in accordance with its terms and will be binding on the University and the Underwriters. The Underwriters may withdraw this Purchase Agreement upon written notice delivered by the Representative to the Treasurer of the University at any time prior to acceptance. Terms used but not defined in this Purchase Agreement are defined in the Resolutions (as defined below).

1. <u>Purchase and Sale</u>. Upon the terms and conditions and in reliance upon the representations, warranties and agreements herein set forth, the Underwriters hereby agree to purchase from the University, and the University hereby agrees to sell and deliver to the Underwriters, all (but not less than all) of the Bonds, at the purchase price of \$_______,

representing the aggregate principal amount of the Bonds less an Underwriter's discount of \$_____ [plus] [net] original issue [premium] of \$_____.

The University acknowledges and agrees that: (i) the primary role of the Underwriters, as underwriters, is to purchase securities, for resale to investors, in an arm's length commercial transaction among the University and the Underwriters, and the Underwriters have financial and other interests that differ from those of the University; (ii) the Underwriters are acting solely as principals and are not acting as municipal advisors, financial advisors or fiduciaries to the University and have not assumed any advisory or fiduciary responsibility to the University with respect to the transaction contemplated hereby and the discussions, undertakings and procedures leading thereto (irrespective of whether the Underwriters have provided other services or are currently providing other services to the University on other matters); (iii) the only obligations the Underwriters have to the University with respect to the initial sale and purchase of the Bonds as contemplated hereby expressly are set forth in this Purchase Agreement; and (iv) the University has consulted its own financial and/or municipal, legal, accounting, tax and other advisors, as applicable, to the extent it has deemed appropriate.

**2.** <u>Description and Purpose of the Bonds.</u> The purpose of the issuance of the Bonds is (a) to finance certain capital projects, (b) to refund the outstanding principal amount of the University's General Revenue Pledge Refunding Bonds, Series 2004A maturing, or subject to mandatory sinking fund redemption, in the years 2017 to 2020, inclusive (the "Refunded Bonds") and (c) to finance costs associated with the issuance of the Bonds, as more fully described in the Official Statement (as defined below).

The Bonds will be issued pursuant to the powers granted by the Restructured Higher Education Financial and Administrative Operations Act, Chapter 4.10, Title 23 of the Code of Virginia of 1950, as amended (the "Restructuring Act"), and the management agreement (the "Management Agreement") between the University and the Commonwealth of Virginia (the "Commonwealth").

In addition, the Series 2015A Bonds will be issued pursuant to the terms of a resolution adopted by the Board of Visitors of the University (the "Board") on August 31, 2015 (the "Series 2015A Bonds Resolution") and as supplemented by a series resolution relating to the Series 2015A Bonds, adopted by the Board on August 31, 2015 (together, the "Series 2015A Bonds Resolution"); the Series 2015B Bonds will be issued pursuant to the terms of a resolution adopted by the Board on August 31, 2015 and as supplemented by a series resolution relating to the Series 2015B Bonds, adopted by the Board on August 31, 2015 (together, the "Series 2015B Bonds Resolution"); the Series 2015C Bonds will be issued pursuant to the terms of a resolution adopted by the Board on August 31, 2015 and as supplemented by a series resolution relating to the Series 2015C Bonds, adopted by the Board on August 31, 2015 (together, the "Series 2015C Bonds Resolution"); the Series 2015D Bonds will be issued pursuant to the terms of a resolution adopted by the Board on August 31, 2015 and as supplemented by a series resolution relating to the Series 2015D Bonds, adopted by the Board on August 31, 2015 (together, the "Series 2015D Bonds Resolution"); and the Series 2015E Bonds will be issued pursuant to the terms of a resolution adopted by the Board on August 31, 2015 (the "Series 2015E Bonds Resolution" and together with the Series 2015A Bonds Resolution, the Series 2015B Bonds Resolution, the Series 2015C Bonds Resolution and the Series 2015D Bonds Resolution, the "Resolutions"). The Series 2015A Bonds Resolution, the Series 2015B Bonds Resolution, the Series 2015C Bonds Resolution and the Series 2015D Bonds Resolution will be referred to herein as the "Systems Resolutions."

Pursuant to the Resolutions, The Bank of New York Mellon Trust Company, N.A., will be acting as paying agent and registrar for the Bonds.

The Series 2015A Bonds are secured by and payable from the Net Revenues of the University's dormitory and dining hall system (the "Dormitory and Dining Hall System") and are further secured by Pledged General Revenues of the University. The Series 2015B Bonds are secured by and payable from the Net Revenues of the University's athletic facilities system (the "Athletic Facilities System") and are further secured by Pledged General Revenues of the University. The Series 2015C Bonds are secured by and payable from the Net Revenues of the University's services system (the "University Services System") and are further secured by Pledged General Revenues of the University's utility system (the "Utility System") and are further secured by Pledged General Revenues of the University. The Series 2015E Bonds are secured by and payable from Pledged General Revenues of the University.

Upon the issuance of the Series 2015E Bonds, a portion of the proceeds thereof will be used to refund the outstanding principal amount of the Refunded Bonds.

The Bonds shall mature in the years, bear interest, be purchased at the prices and be subject to optional and mandatory redemption at the times and in the amounts, all as set forth in <a href="Schedule I">Schedule I</a> attached hereto. The Authorized Denominations, Record Dates, Interest Payment Dates, sinking fund payment dates, and other details and particulars of the Bonds shall be as described in the applicable Resolution and the Official Statement.

3. Public Offering. The Underwriters agree to make a *bona fide* public offering of the Bonds at a price not in excess of the initial offering price or prices or yields not less than the yields set forth on the inside cover page of the printed paper form of the Official Statement of the University; *provided*, *however*, the Underwriters reserve the right to change such initial public offering prices as the Underwriters deem necessary or desirable, in their sole discretion, in connection with the marketing of the Bonds, and may offer and sell the Bonds to certain dealers, unit investment trusts and money market funds, certain of which may be sponsored or managed by one or more of the Underwriters at prices lower than the public offering prices or yields greater than the yields set forth therein. The Representative shall provide to the University a certificate setting forth the offering prices of the Bonds in substantially the form set forth on Exhibit A.

### 4. <u>Delivery of the Official Statement and Other Documents.</u>

(a) The University has caused to be delivered to the Underwriters copies of the Preliminary Official Statement dated _______, 2015, which, together with the cover page and appendices thereto, is herein referred to as the "Preliminary Official Statement." It is acknowledged by the University that the Underwriters may deliver the Preliminary Official Statement and a final Official Statement (as hereinafter defined) electronically over the internet

or in printed paper form. For purposes of this Purchase Agreement, in the event of any conflict between the electronic form and the printed paper form thereof, the printed paper form of the Preliminary Official Statement and the Official Statement, in the forms "deemed final" as hereinafter provided, shall control.

The University represents and warrants that the Preliminary Official Statement was "deemed final" by its duly authorized officer as of its date and remains final as of the date hereof for purposes of Rule 15c2-12 promulgated under the Securities Exchange Act of 1934, as amended ("Rule 15c2-12"), except for any information which is permitted to be omitted therefrom in accordance with paragraph (b)(1) thereof.

- Within seven (7) business days from the date hereof, and in any event not later than two (2) business days before the Closing Date, the University shall deliver, at its expense, to the Underwriters a final Official Statement relating to the Bonds dated the date hereof (such Official Statement, including the cover page, and all appendices attached thereto, together with all information previously permitted to have been omitted by Rule 15c2-12 and any amendments or supplements and statements incorporated by reference therein or attached thereto, as have been approved by the University, Bond Counsel, counsel to the University, Underwriters' counsel and the Representative, is referred to herein as the "Official Statement") and such additional conformed copies thereof as the Representative may reasonably request in sufficient quantities to comply with Rule 15c2-12, rules of the Municipal Securities Rulemaking Board ("MSRB") and to meet potential customer requests for copies of the Official Statement. The Underwriters agree to file a copy of the Official Statement, including any amendments or supplements thereto prepared by the University, with the MSRB on its Electronic Municipal Markets Access ("EMMA") system. The University shall execute the Official Statement by an authorized officer of the University. The Official Statement shall be in substantially the same form as the Preliminary Official Statement and, other than information previously permitted to have been omitted by Rule 15c2-12, the University shall only make such other additions, deletions and revisions in the Official Statement which are approved by the Representative. The Underwriters hereby agree to cooperate and assist in the preparation of the Official Statement. The University agrees to deliver to the Underwriters an electronic copy of the Official Statement in a form that permits the Underwriters to satisfy their obligations under the rules and regulations of the MSRB and the U.S. Securities and Exchange Commission ("SEC"). The University hereby ratifies, confirms and approves the use and distribution by the Underwriters before the date hereof of the Preliminary Official Statement and hereby authorize the Underwriters to use the Official Statement in connection with the public offering and sale of the Bonds.
- (c) In order to assist the Underwriters in complying with Rule 15c2-12, the University will undertake, pursuant to the Continuing Disclosure Agreement dated _______, 2015 (the "Disclosure Agreement") to provide annual financial information and notices of the occurrence of specified events. A description of the Disclosure Agreement is set forth in, and a form of such agreement is attached as Appendix I to, the Preliminary Official Statement and the Official Statement.
- (d) If between the date hereof and the time of Closing, any event shall occur which might or would cause the Official Statement, as then supplemented or amended, to contain any untrue statement of a material fact or omit to state a material fact necessary to make the

statements therein, in the light of the circumstances under which they were made, not misleading, the University shall notify the Representative thereof, and if, in the opinion of the Representative, such event requires the preparation and publication of a supplement or amendment to the Official Statement, the University shall promptly (and in any event before the Closing) prepare and furnish (at the expense of the University) a reasonable number of copies of an amendment of or supplement to the Official Statement in form and substance satisfactory to the Representative.

- (e) If the Official Statement is supplemented or amended, at the time of each supplement or amendment thereto and (unless subsequently again supplemented or amended) at all times subsequent thereto up to and including the time of the Closing, the Official Statement as so supplemented or amended will be true and correct in all material respects and will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.
- **5.** Representations of the University. The University represents to and agrees with the Underwriters that:
- (a) By Title 23 of Code of Virginia of 1950, as amended (the "Act"), the University is classified as a public institution of higher education of the Commonwealth.
- (b) The University is authorized under the Restructuring Act and the Management Agreement to adopt the Resolutions and to enter into this Bond Purchase Agreement, to pledge and assign the Pledged General Revenues and the Net Revenues of the Dormitory and Dining Hall System, the Athletic Facilities System, the University Services System and the Utility System (together, the "Systems") as security for the payment of the principal of and interest on the respective series of Bonds to which they are pledged and to issue the Bonds.
- (c) The University has full power and authority to consummate the transactions contemplated by this Bond Purchase Agreement, the Bonds, the Resolutions and the Continuing Disclosure Agreement (collectively, the "<u>University Documents</u>") and the Official Statement.
- (d) The University has (i) duly authorized the execution and delivery of the Bonds, this Bond Purchase Agreement and the Continuing Disclosure Agreement, (ii) duly authorized the sale and deliver of the Bonds, (iii) duly authorized the distribution of the Preliminary Official Statement and the execution and distribution of the Official Statement, and (iv) taken, or will take, all action necessary or appropriate to carry out the issuance, sale and delivery of the Bonds to the Underwriters.
- (e) The University is not in default under any instrument under or subject to which any indebtedness for borrowed money has been incurred that would adversely affect the University's power or authority to issue the Bonds, to execute and deliver the University Documents and to perform the obligations thereunder and under the Resolutions, and no event

has occurred and is continuing under the provisions of any such instrument that with the lapse of time or the giving of notice, or both, would constitute such an event of default thereunder.

- (f) The execution and delivery of the University Documents, the distribution of the Preliminary Official Statement and the execution and distribution of the Official Statement, and the performance by the University of its obligations under the University Documents are within the corporate and statutory powers of the University and will not conflict with or constitute a breach or result in a violation of (i) the Restructuring Act, the Management Agreement or the Board's bylaws, (ii) any federal or Virginia constitutional or statutory provision, (iii) any current order, rule regulation, decree or ordinance of any court, government or governmental authority having jurisdiction over the University or its property, or (iv) any agreement or other instrument to which the University is a party or by which it is bound.
- (g) All authorizations, consents, approvals, findings and certificates of governmental bodies or agencies required to be obtained by the University in connection with the (i) refunding of the Refunded Bonds, (ii) financing of the Projects, (iii) execution and delivery by the University of this Bond Purchase Agreement and the Continuing Disclosure Agreement and the issuance of the Bonds, (iv) the performance by the University of its obligations under the University Documents and (v) the distribution of the Preliminary Official Statement and the execution and distribution of the Official Statement, have been obtained and are in full force and effect; provided, that no representation is made with respect to compliance with any applicable blue sky or securities laws of any state.
- (h) There is no litigation, inquiry or investigation of any kind before or by any judicial court or governmental agency pending or, to the knowledge of the University, threatened against the University with respect to (i) its organization or existence, (ii) its authority to execute and deliver this Bond Purchase Agreement, the Continuing Disclosure Agreement or the Bonds or to perform its obligations thereunder or under the Resolutions, (iii) its authority to distribute the Preliminary Official Statement and to execute and distribute the Official Statement, (iv) the validity or enforceability of the University Documents, (v) the title of the officers executing University Documents or the Official Statement, or (vi) any authority or proceedings relating to the authority of such officers to execute and deliver this Bond Purchase Agreement, the Continuing Disclosure Agreement, the Bonds or the Official Statement on behalf of the University, and no such authority or proceedings have been repealed, revoked, rescinded or amended.
- (i) When authenticated by the Registrar and delivered to and paid for by the Underwriters in accordance with the terms of this Bond Purchase Agreement, (i) the Bonds will have been duly authorized, executed and issued, (ii) the Bonds, together with this Bond Purchase Agreement, the Continuing Disclosure Agreement, the Resolutions and the other documents contemplated by the Resolutions and by the Official Statement, will constitute legal, valid and binding limited obligations of the University enforceable in accordance with their terms except that the rights of the holders of the Bonds and the enforceability of such documents may be subject to (A) the exercise of judicial discretion in accordance with general principles of equity; (B) sovereign immunity, or other applicable provisions of law relating to judgments against the Commonwealth, its public corporations and political subdivisions; and (C) bankruptcy, insolvency, reorganization, moratorium and other similar laws and usual equity principles, and

- (iii) the Bonds will be secured by the Pledged General Revenues and, as applicable, the Net Revenues of the applicable System, and the other security provided in the respective Resolution.
- (j) There is no litigation at law or in equity or any proceeding before any governmental agency pending or, to the knowledge of the University, threatened, in which any liability of the University is not adequately covered by insurance, or in which any judgment or order would have a material adverse effect on the business (financial or otherwise) or assets of the University or affect its existence or authority to do business.
- (k) The University is not a party to any contract or agreement or subject to any restriction not disclosed in the Preliminary Official Statement and the Official Statement, the performance of or compliance with which may have a material adverse effect on the financial condition or operations of the University.
- (l) The University is not in default in the payment of the principal of or interest on any of its indebtedness for borrowed money or under any instrument under or subject to which any indebtedness has been incurred. No event has occurred and in continuing that, with the lapse of time or the giving of notice or both, would constitute an event of default under any such instrument.
- (m) Except as set forth in the Preliminary Official Statement and the Official Statement, the University has not failed to comply, in all material respects, with any undertakings previously made in a written contract or agreement meant to ensure compliance with Rule 15c2-12 of the Securities and Exchange Commission (the "Rule").
- (n) The financial statements of the University contained in the Official Statement present fairly the financial position for the fiscal year ended June 30, 2014, and the results of the University's operations for the period specified. Such financial statements have been prepared in conformity with generally accepted accounting principles consistently applied. Since the date of such financial statements, there has been no material adverse change in the financial condition or operations of the University except as disclosed in the Official Statement.
- (o) The proceeds of the sale of the Bonds shall be applied as described in the Official Statement.

All representations, warranties and agreements of the University shall remain operative and in full force and effect, regardless of any investigations made by any Underwriter or on the Underwriters' behalf, and shall survive the delivery of the Bonds.

6. <u>Closing</u>. At 12:00 P.M., Eastern Time, on _____, 2015, or at such other time or date as the Representative and the University may mutually agree upon as the date and time of the Closing (the "<u>Closing Date</u>"), the University will deliver or cause to be delivered to the Underwriters, at the offices of Troutman Sanders LLP ("<u>Bond Counsel</u>"), in Richmond, Virginia, or at such other place as the Representative and the University may mutually agree upon, the Bonds, duly executed and authenticated, in a form appropriate to be delivered held by [the Paying Agent under a safekeeping arrangement on behalf of, and for inclusion in the FAST System maintained by] The Depository Trust Company ("DTC"), and the other documents specified in Section 8. At the Closing, (a) upon satisfaction of the conditions herein specified,

the Underwriters shall accept such delivery of the Bonds, and pay the purchase price therefor in federal funds payable in the manner set forth in the Resolutions for the account of the University and (b) the University shall cause to be delivered the Bonds to the Underwriters [by the Paying Agent] through the facilities of DTC in definitive or temporary form, duly executed by the University, in accordance with the foregoing procedure in the Authorized Denominations as specified by the Representative at the Closing and the University shall deliver the other documents hereinafter mentioned. The Bonds shall be made available to the Underwriters at least one (1) business day before the Closing Date for purposes of inspection.

- **7.** <u>Conditions Precedent</u>. The Underwriters have entered into this Purchase Agreement in reliance upon the representations and agreements of the University contained herein and the performance by the University of its obligations hereunder, both as of the date hereof and as of the Closing Date.
- (a) The Underwriters' obligations under this Purchase Agreement are and shall be subject to the following further conditions:
- (i) The representations of the University contained herein shall be true, complete and correct in all material respects on the date of acceptance hereof and on and as of the Closing Date.
- (ii) At the time of the Closing, the Official Statement and the University Documents shall be in full force and effect and shall not have been amended, modified or supplemented except as may have been agreed to in writing by the Representative and the University.
- (iii) The University shall perform or have performed all of its obligations required under or specified in the University Documents and the Official Statement to be performed by it at or prior to the Closing.
- (iv) The Underwriter shall receive the final Official Statement by the time, and in the numbers, required by Section 4 of this Purchase Agreement.
- (v) As of the date hereof and at the time of Closing, all necessary official action of the University relating to the University Documents and the Official Statement shall have been taken and shall be in full force and effect and shall not have been amended, modified or supplemented in any material respect without the consent of the Representative.
- (vi) After the date hereof, up to and including the time of the Closing, there shall not have occurred any change in or event affecting the University, the Act, the Restructuring Act, the Management Agreement or the University Documents as the foregoing matters are described in the Official Statement, which in the reasonable professional judgment of the Representative materially impairs the investment quality of the Bonds.
- (vii) At or prior to the Closing, the Representative shall receive the following documents (in each case with only such changes as the Representative shall approve):

- (1) The approving opinion of Bond Counsel addressed to the University relating to the Bonds, dated the Closing Date, substantially in the form attached as Appendix H to the Official Statement, and a reliance letter with respect thereto addressed to the Underwriters;
- (2) The supplemental opinion of Bond Counsel, addressed to the Underwriters, dated the Closing Date, to the effect that:
  - (A) This Purchase Agreement has been duly executed and delivered by the University and, assuming the due authorization, execution and delivery thereof by the Underwriters, is a legal, valid and binding obligation of the University, subject to laws relating to bankruptcy, insolvency, reorganization or creditors' rights generally, to the application of equitable principles, the exercise of judicial discretion and the limitations on legal remedies against public entities in the Commonwealth;
  - (B) The statements contained in the Official Statement on the cover page and in the sections entitled "THE SERIES 2015 BONDS" and "TAX MATTERS" and in Appendices C, D, E, F and G insofar as such statements expressly summarize certain provisions of the Resolutions and the Bonds and the form and content of such counsel's opinion attached as Appendix H to the Official Statement, are accurate in all material respects; and
  - (C) The Bonds are exempt from the registration requirements of the Securities Act of 1933, as amended (the "1933 Act") and each of the Resolutions is exempt from qualification as an indenture pursuant to the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act");
- (3) The opinion of counsel to the University, dated the date of Closing and addressed to the Underwriters, in form and substance acceptable to the Underwriters and their counsel:
- (4) The opinion of McGuireWoods LLP, counsel to the Underwriters, dated the date of the Closing and addressed to the Underwriters, and covering such matters as the Representative may reasonably request;
- (5) A certificate, dated the Closing Date from the University, signed by an authorized officer of the University to the effect that: (a) the representations and agreements of the University contained herein are true and correct in all material respects as of the date of the Closing; (b) the University Documents have been duly authorized and executed and are in full force and effect; (c) except as described in the Official Statement, no litigation is pending or, to his or her knowledge, threatened

- (i) seeking to restrain or enjoin the issuance or delivery of any of the Bonds, (ii) in any way contesting or affecting any authority for the issuance of the Bonds or the validity of the Bonds, or any University Document, or (iii) which, if adversely determined, could materially adversely affect the financial position or operating condition of the University or the transactions contemplated by the Official Statement or any University Document; and (d) the Official Statement is true and correct in all material respects and does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, except no review has been made of information in the Official Statement under the captions "THE SERIES 2015 BONDS Book-Entry System," "UNDERWRITING," and "TAX MATTERS" and Appendix H;
- (6) A certificate, dated the Closing Date, signed by an authorized officer of the University, in form and substance satisfactory to the Underwriters, to the effect that (i) the financial statements of the University as of June 30, 2014 fairly represent the receipts, expenditures, assets, liabilities and cash balances and, insofar as presented, other funds of the University as of the dates and for the periods therein set forth and (ii) except as disclosed in the Official Statement, since June 30, 2014, no materially adverse change, or any development involving a prospective material adverse change, has occurred in the financial condition or results of operations of the University and the University has not incurred since June 30, 2014, any material liabilities other than in the ordinary course of business or as set forth in or contemplated by the Official Statement;
  - (7) Certified copies of each of the Resolutions;
  - (8) A specimen of each maturity of the Bonds;
- (9) Executed or certified copies of each of the remaining University Documents;
- (10) Evidence satisfactory to the Representative to the effect that the Bonds have received a rating of "___" or better from Moody's Investors Service and a rating of "___" or better from Standard & Poor's Rating Services;
- (11) Evidence that a Form 8038-G relating to the Bonds has been executed by the University and will be filed with the Internal Revenue Service (the "IRS") within the applicable time limit:
  - (12) A copy of the Blue Sky Survey with respect to the Bonds;
- (13) A copy of the University's executed Blanket Letter of Representation to The Depository Trust Company; and
- (14) Such additional legal opinions, certificates, proceedings, instruments and other documents as the Representative, counsel for the Underwriters or Bond Counsel may reasonably request to evidence (a) compliance by the University with legal requirements, (b) the truth and accuracy, as of the time of Closing, of the

representations of the University herein contained and the due performance or satisfaction by the University at or prior to such time of all agreements then to be performed and (c) all conditions then to be satisfied by the University and all conditions precedent to the issuance of the Bonds pursuant to the Resolutions shall have been fulfilled.

- 8. <u>Termination</u>. If the University shall not satisfy the conditions of the Underwriters' obligations contained in this Purchase Agreement or if the Underwriters' obligations shall be terminated for any reason permitted by this Purchase Agreement, this Purchase Agreement may be cancelled by the Representative at, or at any time before, the time of the Closing. Notice of such cancellation shall be given by the Representative to the University in writing, or by telephone confirmed in writing. The performance by the University of any and all conditions contained in this Purchase Agreement for the benefit of the Underwriters may be waived by the Representative.
- (a) The Underwriters shall also have the right, before the time of Closing, to cancel their obligations to purchase the Bonds, by written notice by the Representative to the University, if between the date hereof and the time of Closing:
- (i) Any event or circumstance occurs or information becomes known, which, in the reasonable professional judgment of the Representative, makes untrue any statement of a material fact set forth in the Official Statement or results in an omission to state a material fact necessary to make the statements made therein, in the light of the circumstances under which they were made, not misleading; or
- (ii) The market for the Bonds or the market prices of the Bonds or the ability of the Underwriters to enforce contracts for the sale of the Bonds shall have been materially and adversely affected, in the reasonable professional judgment of the Representative, by any of the following that occurs subsequent to the date hereof:
  - (1) An amendment to the Constitution of the United States or the Commonwealth shall have been passed or legislation shall have been introduced in or enacted by the Congress of the United States or the legislature of any state having jurisdiction of the subject matter or legislation pending in the Congress of the United States shall have been amended or legislation shall have been recommended to the Congress of the United States or to any state having jurisdiction of the subject matter or otherwise endorsed for passage (by press release, other form of notice or otherwise) by the President of the United States, the Treasury Department of the United States, the Internal Revenue Service or the Chairman or ranking minority member of the Committee on Finance of the United States Senate or the Committee on Ways and Means of the United States House of Representatives, or legislation shall have been proposed for consideration by either such Committee by any member thereof or presented as an option for consideration by either such Committee by the staff of such Committee or by the staff of the Joint Committee on Taxation of the Congress of the United States, or legislation shall have been favorably reported for passage to either House of the Congress of the United States by a Committee of such House to which such legislation has been referred for consideration, or a decision shall have been rendered by a court of the United States

or of the Commonwealth or the Tax Court of the United States, or a ruling shall have been made or a regulation or temporary regulation shall have been proposed or made or any other release or announcement shall have been made by the Treasury Department of the United States, the Internal Revenue Service or other federal or Commonwealth authority, with respect to federal or Commonwealth taxation upon revenues or other income of the general character to be derived by the University or upon interest received on obligations of the general character of the Bonds which, in the reasonable professional judgment of the Representative, may have the purpose or effect, directly or, indirectly, of affecting the tax status of the University, its property or income, its securities (including the Bonds) or the interest thereon, or any tax exemption granted or authorized by Commonwealth legislation; or

- (2) The declaration of war or engagement in or escalation of military hostilities by the United States or the occurrence of any other national emergency or calamity or terrorism affecting the operation of the government of, or the financial community in, the United States; or
- (3) The declaration of a general banking moratorium by federal, New York or Virginia authorities; or
- (4) The occurrence of a major financial crisis, a material disruption in commercial banking or securities settlement or clearance services, or a material disruption or deterioration in the fixed income or municipal securities market; or
- (5) Additional material restrictions not in force or being enforced as of the date hereof shall have been imposed upon trading in securities generally by any governmental authority or by any national securities exchange; or
- (6) The general suspension of trading on any national securities exchange; or
- (iii) Legislation is enacted, introduced in the Congress or recommended for passage by the President of the United States, or a decision is rendered by a court established under Article III of the Constitution of the United States or by the Tax Court of the United States, or an order, ruling, regulation (final, temporary or proposed) or official statement issued or made by or on behalf of the Securities and Exchange Commission, or any other governmental agency having jurisdiction of the subject matter shall have been made or issued to the effect that the Bonds, other securities of the University or obligations of the general character of the Bonds, are not exempt from registration under the 1933 Act, or that any of the Resolutions is not exempt from qualification under the Trust Indenture Act; or
- (iv) Any change in or particularly affecting the University, the Act, the Restructuring Act, the Management Agreement or the University Documents as the foregoing matters are described in the Official Statement occurs, which in the reasonable professional judgment of the Representative materially impairs the investment quality of the Bonds; or
- (v) An order, decree or injunction of any court of competent jurisdiction, shall have been issued or made to the effect that the issuance, offering or sale of

obligations of the general character of the Bonds, or the issuance, offering or sale of the Bonds, including any or all underlying obligations, as contemplated hereby or by the Preliminary Official Statement or the Official Statement, is or would be in violation of any applicable law, rule or regulation, including (without limitation) any provision of applicable federal securities laws as amended and then in effect; or

- (vi) A stop order, ruling, regulation or official statement by the SEC or any other governmental agency having jurisdiction of the subject matter shall have been issued or made or any other event occurs, the effect of which is that the issuance, offering or sale of the Bonds, or the execution and delivery of any University Documents, as contemplated hereby or by the Preliminary Official Statement or the Official Statement, is or would be in violation of any applicable law, rule or regulation, including (without limitation) any provision of applicable federal securities laws, including the 1933 Act, the Securities Exchange Act of 1934 or the Trust Indenture Act, each as amended and as then in effect; or
- (vii) Any litigation shall be instituted or be pending at the time of the Closing to restrain or enjoin the issuance, sale or delivery of the Bonds, or in any way contesting or affecting any authority for or the validity of the proceedings authorizing and approving the Act, the Restructuring Act, the Management Agreement, the Resolutions, the University Documents or the existence or powers of the University with respect to its obligations under the University Documents; or

(viii) A reduction or withdrawal in any of the following assigned ratings, or, as of the Closing Date, the failure by either of the following rating agencies to assign the following ratings to the Bonds: the long-term ratings assigned by Moody's Investors Service and Standard & Poor's Rating Service of "___" and "___," respectively.

#### 9. Reserved.

- 10. Amendments to Official Statement. During the period commencing on the Closing Date and ending twenty-five (25) days from the end of the underwriting period, the University shall advise the Representative if any event relating to or affecting the Official Statement shall occur as a result of which it may be necessary or appropriate to amend or supplement the Official Statement in order to make the Official Statement not misleading in light of the circumstances existing at the time it is delivered to a purchaser or "potential customer" (as defined for purposes of Rule 15c2-12). If any such event occurs and in the reasonable judgment of the Representative and the University, an amendment or supplement to the Official Statement is appropriate, the University shall, at its expense, forthwith prepare and furnish to the Underwriters a reasonable number of copies of an amendment of or supplement to the Official Statement (in form and substance satisfactory to counsel for the Underwriters) that will amend or supplement the Official Statement so that it will not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at the time the Official Statement is delivered to a purchaser or "potential customer," not misleading.
- 11. <u>Expenses</u>. All expenses and costs of the University incident to the performance of its obligations in connection with the authorization, issuance and sale of the Bonds to the

Underwriters, including the costs of printing or reproduction of the Bonds, the University Documents and the Official Statement in reasonable quantities, fees of consultants, fees of rating agencies, advertising expenses, fees and expenses of the Paying Agent and its counsel and fees and expenses of counsel to the University, counsel to the Underwriters and Bond Counsel, shall be paid by the University from the proceeds of the Bonds or other funds of the University. The University shall be solely responsible for and shall pay for any expenses legally and reasonably incurred by the Underwriters on behalf of the University's employees and representatives which are incidental to implementing this Purchase Agreement, including, but not limited to, meals, transportation, lodging, and entertainment of those employees and representatives. The expenses and costs of the Underwriters to be paid by the University will be consistent with the engagement memorandum dated May 8, 2015 between the Underwriters and the University unless otherwise agreed to in writing. All expenses and costs of the Underwriters incurred under or pursuant to this Purchase Agreement, including, without limitation, the cost of preparing this Purchase Agreement and other Underwriter documents, travel expenses and the fees shall be paid by the Underwriters (which may be included as an expense component of the Underwriter's discount).

- 12. <u>Use of Documents</u>. The University hereby authorizes the Underwriters to use, in connection with the public offering and sale of the Bonds, this Purchase Agreement, the Preliminary Official Statement, the Official Statement, and the University Documents, and the information contained herein and therein.
- **13. Qualification of Securities**. The University will furnish such information, execute such instruments and take such other action in cooperation with the Underwriters as the Representative may reasonably request to qualify the Bonds for offer and sale under the Blue Sky or other securities laws and regulations of such states and other jurisdictions of the United States as the Representative may designate and to provide for the continuance of such qualification; *provided*, *however*, that the University will not be required to qualify as a foreign corporation or to file any general or special consents to service of process under the laws of any state.
- 14. <u>Notices</u>. Any notice or other communication to be given to the University under this Purchase Agreement may be given by delivering the same in writing to 220 Burrus Hall 800 Drillfield Drive Blacksburg, Virginia 24061, Attention: Chief Financial Officer and University Treasurer and any notice or other communication to be given to the Underwriters may be given by delivering the same in writing to Merrill Lynch, Pierce, Fenner & Smith Incorporated, 730 15th Street, N.W. 4th Floor, Washington, D.C. 20005, Attention: Adam Gentzel.
- 15. <u>Benefit</u>. This Purchase Agreement is made solely for the benefit of the University and the Underwriters (including their successors or assigns) and no other person, partnership, association or corporation shall acquire or have any right hereunder or by virtue hereof. Except as otherwise expressly provided herein, all of the agreements and representations of the University contained in this Purchase Agreement and in any certificates delivered pursuant hereto shall remain operative and in full force and effect regardless of: (i) any investigation made by or on behalf of the Underwriters; (ii) delivery of and payment for the Bonds hereunder; or (iii) any termination of this Purchase Agreement, other than pursuant to Section 8.

- **16.** Attorneys Fees. In the event of a dispute arising under this Purchase Agreement, the prevailing party shall have the right to collect from the other party its reasonable costs and necessary disbursements and attorneys' fees incurred in enforcing this Purchase Agreement.
- 17. Governing Law. THIS PURCHASE AGREEMENT SHALL BE DEEMED TO BE A CONTRACT UNDER, AND FOR ALL PURPOSES SHALL BE GOVERNED BY, AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO CHOICE OF LAW RULES (OTHER THAN NEW YORK GENERAL OBLIGATIONS LAWS SECTION 5-1401 AND 5-1402); PROVIDED, HOWEVER, THAT THE OBLIGATIONS OF THE UNIVERSITY SHALL BE GOVERNED BY, AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH THE LAWS OF THE COMMONWEALTH.
- **18.** <u>Counterparts</u>. This Purchase Agreement may be executed in several counterparts, each of which shall be deemed an original hereof.

Very truly yours,

## MERRILL LYNCH, PIERCE, FENNER & SMITH INCORPORATED, as

Representative

By:	
Its:	
	INIA POLYTECHNIC INSTITUTE STATE UNIVERSITY
By:	
Its:	

#### **SCHEDULE I**

# VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY Revenue Bonds, Series 2015

consisting of

<b>S</b>	\$ Dormitory and Dining Hall System and General Revenue Pledge Bonds, Series 2015A  \$ Utility System and General Revenue Pledge Bonds,		General Reven	ities System and ue Pledge Bonds, s 2015B	General Gene	\$ty Services System and Revenue Pledge Bonds, Series 2015C \$ ral Revenue Pledge ng Bonds, Series 2015E	,
	Series 2015						
1.	Aggregate	Principal Am	ount of Bonds	S:			
		A, \$					
	Series 2015	B, \$					
	Series 2015	C, \$					
	Series 2015	D, \$					
	Series 2015	E, \$					
2.	<b>Issue Date</b>	of the Bonds:	, 201	15			
3.	Aggregate	Purchase Pric	ee:				
	Par An	nount				\$	
		let Original Iss nderwriters' D				<del></del>	
	Total	nderwriters D	iscount			\$	
4	M-4:4:	D.:		-4 D-4 V2-1J	J D		
4.	•	-	ŕ	est Rates, Yield		onds, Series 2015A	
	\$* Dor	initory and Din		and General Revo	enue Pieuge Do	onus, Series 2015A	
			ф Sena	ii Series 2013A Bolius			
Maturity*	Amount*	Coupon	Yield	Maturity*	Amount*	Coupon	Yield

I-1

* Preliminary, subject to change.

	\$*	_% Term Series 2015.	A Bonds Due June 1,	20,* priced to yield	_% at an approximate	price of%	
	\$	* Athletic Facil	ities System and	General Revenue F	Pledge Bonds, Sei	ries 2015B	
	\$*	_% Term Series 2015	B Bonds Due June 1,	20,* priced to yield	_% at an approximate	price of%	
	\$:	* University Ser	vices System and	General Revenue	Pledge Bonds, Se	eries 2015C	
			\$* Seri	al Series 2015C Bonds			
Maturity*	Amount*	Coupon	<u>Yield</u>	Maturity*	Amount*	<u>Coupon</u>	Yield
	\$*	_% Term Series 2015	5C Bonds Due June 1,	20, priced to yield	_% at an approximate	price of%	
	\$	* Utility S	ystem and Gene	ral Revenue Pledge	Bonds, Series 20	015D	
			\$* Seri	al Series 2015D Bonds			
Maturity*	Amount*	Coupon	Yield	Maturity*	Amount*	Coupon	Yield
	\$*	_% Term Series 2015	DBonds Due June 1,	20,* priced to yield	_% at an approximate	price of%	
	9	\$* Gen	eral Revenue Ple	edge Refunding Bo	nds, Series 2015E	Σ	
			\$* Seri	al Series 2015E Bonds			
Maturity*	Amount*	Coupon	Yield	Maturity*	Amount*	<u>Coupon</u>	Yield
				20,* priced to yield	_% at an approximate	price of%	
5.	Redemption	on and Purcha	ase Provisions	:			

[To Come]

#### **EXHIBIT A**

#### ISSUE PRICE CERTIFICATE OF THE UNDERWRITER

This Certificate is furnished by Merrill Lynch, Pierce, Fenner & Smith Incorporated as representative of the underwriters (the "Underwriter") in connection with the sale and issuance by Virginia Polytechnic Institute and State University (the "Issuer") of its \$______ Dormitory and Dining Hall System and General Revenue Pledge Bonds, Series 2015A, its \$_____ Athletic Facilities System and General Revenue Pledge Bonds, Series 2015B, its \$_____ University Services System and General Revenue Pledge Bonds, Series 2015C, its \$_____ Utility System and General Revenue Pledge Bonds, Series 2015D, and its \$_____ General Revenue Pledge Refunding Bonds, Series 2015E (collectively, the "Bonds") issued ______ 2015, and the Underwriter hereby certifies and represents the following, based upon information available to us:

- 1. Based on our assessment of the then prevailing market conditions, the Underwriter reasonably expected when it agreed to purchase the Bonds (the "Sale Date") that the first prices at which at least 10% of each maturity of the Bonds would be sold by the Underwriter to the general public (excluding bond houses, brokers or similar persons or organizations acting in the capacity of underwriters or wholesalers) (the "Public") would be prices not higher than, or, in the case of obligations sold on a yield basis, at yields not lower than, those listed for each maturity on Schedule A hereto (the "Initial Offering Prices").
- 2. All of the Bonds have actually been offered to the Public in a bona fide public offering at prices not higher than, or, in the case of obligations sold on a yield basis, at yields not lower than, the Initial Offering Prices.
- 3. The first price, or yield in the case of obligations sold on a yield basis, at which ten percent (10%) of each maturity of the Bonds has been sold to the Public was at a price not higher than, or, in the case of obligations sold on a yield basis, at a yield not lower than, the Initial Offering Prices [except for the Bonds with the following maturities:].
- 4. The Underwriter had no reason to believe that any of the Initial Offering Prices of the Bonds exceeded the expected fair market value of the Bonds as of the Sale Date.

We understand that the foregoing information will be relied upon by the University with respect to certain of the representations set forth in the Tax Certificate and by Troutman Sanders LLP, in connection with rendering its opinion to the University that the interest on the Bonds is not includable in gross income of the owners thereof for federal income tax purposes. The undersigned is certifying only as to facts in existence on the date hereof. Nothing herein represents the undersigned's interpretation of any laws; in particular the regulations under the Internal Revenue Code of 1986, or the application of any laws to these facts. The certifications contained herein are not necessarily based on personal knowledge, but may instead be based on either inquiry deemed adequate by the undersigned or institutional knowledge (or both) regarding the matters set forth herein. Although certain information furnished in this Certificate has been derived from other purchasers, bond houses and brokers and cannot be independently verified by us, we have no reason to believe it to be untrue in any material respect.

Dated:, 2015	
	MERRILL LYNCH, PIERCE, FENNER & SMITH INCORPORATED, as Representative of the Underwriters
	By:
	Name:
	Title:

#### Capital Outlay Plan for 2016-2022

### JOINT FINANCE AND AUDIT COMMITTEE AND BUILDINGS AND GROUNDS COMMITTEE

#### **August 13, 2015**

At its March 2015 meeting, the Board of Visitors considered a recommendation that a list of potential projects for inclusion in the 2016-2022 Capital Outlay Plan (Plan) be approved and that the university be authorized to develop and submit a final plan to the state, in accordance with future guidance from the state and based on the projects in the approved list. The recommendation was approved, and the university has proceeded accordingly.

On May 13, 2015, the state issued instructions for the preparation and submission of the 2016-2022 Capital Outlay Plan. The deadline for submission of the Six-Year Capital Outlay Plan to the state was June 15, 2015, and the university prepared and submitted the plan by the due date. The state instructions required submission of only projects requesting some portion of General Fund resources in their budget. Attachment A shows the list of projects with General Fund support submitted to the state with the listing ranked in priority order for state support. The list of items is consistent with the list approved by the Board of Visitors at its March 2015 meeting.

The projects on Attachment A may be used by the state to update its capital outlay plan and to make funding decisions in the 2016 General Assembly. This project arrangement reflects the needs of the university, priorities of the state, and positions the university with options to respond to various funding abilities of the state in the future. The total dollar value of the listed projects exceeds projected resources likely to be allocated to Virginia Tech from the state during the planning period. However, including a variety of high priority needs in the listing ensures the university has some flexibility to adapt to various state capital funding programs that may emerge in the future.

The Plan includes projects with 100 percent nongeneral fund support and these are shown on a separate schedule (Attachment B) because they do not compete for General Fund resources. Historically, the state requested submission of the university's projects supported entirely with nongeneral funds and ranked in priority order. The state instructions for this submission specified not to submit any projects supported entirely with nongeneral fund resources. Under the university's Management Agreement for Capital Projects, the state has authorized the Board of Visitors to approve and implement projects supported 100 percent by nongeneral funds. Each project must be individually approved by the Board of Visitors. Under this authority, the university may bring resolutions to the Board to initiate projects from the Plan independent of the state budget process. When the

university is prepared to initiate a project supported entirely with nongeneral funds, including a financing plan, the university submits a capital project resolution to the Board for consideration. The list in Attachment B includes the high priority projects for which nongeneral fund resources are anticipated to be sufficient to start a project during the six-year period or for which a private fund raising campaign is a high priority.

Projects with nongeneral fund support, including portions of some gift campaigns, may use external debt to finance a portion of the budget. Each potential debt financing undergoes a financial feasibility assessment to ensure resources are sufficient to cover the full debt service term without unnecessary financial risk to the unit's operations. The positioning of debt is further analyzed to ensure the university does not exceed the parameters of the university debt policy and guidance from the Board of Visitors, which has consistently held the maximum allowable debt ratio (total annual debt service to total operating expenses) to below five percent. This evaluation is projected six-years out and includes anticipated issuances for projects in the Plan. This practice provides an important check to ensure the institution's debt obligations do not become a point of inflexibility in reaching the operational goals of the institution and to ensure the university is holding sufficient debt capacity for its highest priorities.

Attachment B includes a group of projects listed below the line of items on the plan. The section reflects the major facility components of the university visioning exercise to develop new facilities in the existing campus land bank. The land bank location is the area south of the Inn at Virginia Tech on a portion of the campus golf course. The program for the area is a residential college with capacity to house 2,100 students in six residence halls; a commons building with recreation, dining, and student activity space; and necessary utilities and infrastructure to support the new development. The development includes siting for the Business School listed on Attachment A, which when combined with a component of residential facilities will establish a Business Learning Community.

A brief narrative description of each project on Attachment A and Attachment B is shown on Attachment C.

Beyond the submission of the Plan to the state, the expected capital process for the state's 2016 budget session includes at least five major phases:

- 1) over the summer of 2015, a state appointed Advisory Committee (staffed by several central agencies and offices) will review of the university's 2016-2022 Plan with ongoing interactions by the university;
- 2) by November 1, 2015, the Advisory Committee will provide a set of recommendations to the Governor and Chairmen of the Money Committees to update the state's capital outlay plan for the 2016-2022 period;

- 3) on December 17, 2015, the Governor is scheduled to present to the General Assembly a bill proposing the state's updated capital outlay plan and a budget bill including planning funds or full funding for high priority items in the plan;
- 4) during the 2016 General Assembly, the legislature may amend the proposed plan and proposed funding items in the Executive Budget Bill; and,
- 5) July 1, 2016, the updated 2016-2022 plan and any funded items will be effective.

#### **Recommendation:**

That the Six-Year Capital Outlay Plan listing of projects shown on Attachment A for the period 2016 through 2022 as submitted to the state be ratified.

Further, that the list of projects shown on Attachment B be approved as the university's six-year capital plan of entirely nongeneral fund capital projects for the 2016-2022 planning period with projects individually approved by Board of Visitors resolutions prior to implementation.

#### Attachment A

#### General Fund Projects for the 2016-2022 Six-Year Capital Outlay Plan

# JOINT FINANCE AND AUDIT COMMITTEE AND BUILDINGS AND GROUNDS COMMITTEE

as of August 13, 2015

		Budget in Millions (2019 Dollars)			
		General Fund	Nongeneral Fund	Total	
Unive	rsity Division				
1	Undergraduate Science Laboratory Building	\$ 74.8	\$ -	\$ 74.8	
2	Engineering Renewal Holden Hall	61.0	12.5	73.5	
3	Central Chiller Plant, Phase II	35.2	4.8	40.0	
4	VTCRI Biosciences Research Addition	30.8	14.9	45.7	
5	Neuroscience Research Laboratory	47.2	11.8	59.0	
6	Translational Medicine Center, Phase I	19.4	4.0	23.4	
7	Engineering Renewal Randolph Hall	119.4	24.4	143.8	
8	Corps Leadership and Military Science Building	20.0	20.0	40.0	
9	Business School	40.0	80.0	120.0	
10	Architecture & Science Renewal Derring Hall	52.7	10.8	63.5	
11	University Data Center	23.1	7.7	30.8	
12	Library Storage Facility Addition	3.0	-	3.0	
13	Health and Safety Improvements	12.0	-	12.0	
		538.6	190.9	729.5	
Coope	erative Extension / Agriculture Experiment Station				
1	Renew Livestock and Poultry Research Facilities, Phase I	22.5	-	22.5	
2	Human Agriculture and Bioscience Building II	67.8	-	67.8	
3	Renew Livestock and Poultry Research Facilities, Phase II	22.5	-	22.5	
		112.8	-	112.8	
	TOTAL FOR GENERAL FUND PROJECTS	\$ 651.4	\$ 190.9	\$ 842.3	

#### **Attachment B**

#### Nongeneral Fund Projects for the 2016-2022 Six-Year Capital Outlay Plan

### JOINT FINANCE AND AUDIT COMMITTEE AND BUILDINGS AND GROUNDS COMMITTEE

#### as of August 13, 2015

Budget	in	Mil	lion	S
/2040	_	-11-	\	

	(2019 Dollars)				
	General		ngeneral		
	Fund		Fund		Total
University Division					
Educational & General					
Myers Lawson School of Construction, Phase II		\$	13.0	\$	13.0
2 Virginia Bioinformatics Institute Data Center Improvements			6.0		6.0
3 STEM Expansion Space			30.0		30.0
4 Virginia Tech Transportation Institute, Phase IV			4.0		4.0
5 Center for Molecular Medicine and Infectious Disease Renovation	n		4.0		4.0
6 Center Woods Complex Renewal			4.0		4.0
7 Falls Church (NVC) Land Purchase Option			3.0		3.0
8 Virginia Tech Transportation Institute, Phase V			10.0		10.0
Manufacturing Prototype and Demonstration Facility			4.0		4.0
	-		78.0		78.0
Auxiliary Enterprises					
10 O'Shaughnessy Hall Renovation (341)			19.0		19.0
11 War Memorial Hall Renovation			50.0		50.0
12 Slusher Hall Renovation (629)			35.0		35.0
13 Softball and Indoor Track Facility Improvements			12.0		12.0
14 Baseball Field Press Box and Restrooms			10.0		10.0
15 Squires Hall Partial Replacement			30.0		30.0
16 Owens Dining Hall Renovation			22.0		22.0
17 Electronic Door Access for Residential System			5.0		5.0
	-		183.0		183.0
Cooperative Extension / Agriculture Experiment Station Division	on				
1 Eastern Shore Multipurpose Facility			1.0		1.0
2 Middleburg Equine Arena			3.0		3.0
	-	-	4.0	-	4.0
TOTAL FOR NON-GENERAL FUND PROJECTS	<b>\$</b> -	\$	265.0	\$	265.0
	<del>*</del>	_			
GRAND TOTAL OF CAPITAL PLAN FOR 2016-2022 *	\$ 651.4	\$	455.9	\$	1,107.3

^{*}Grand Total Capital Plan includes both the General Fund and Nongeneral Fund Capital Plans (Attachment A + B)

#### Range of Magnitude Costs

Northwest Community Residential College Planning		<b>J</b>		
	Low H		High	
1050 Residential Beds	\$	112.0	\$	142.0
University Commons		50.0		70.0
Infrastructure and Utilities		50.0		100.0
1050 Residential Beds		119.0		150.0
	\$	331.0	\$	462.0

#### Attachment C

#### **Project Descriptions for the 2016-2022 Capital Outlay Plan**

### JOINT FINANCE AND AUDIT COMMITTEE AND BUILDINGS AND GROUNDS COMMITTEE

**August 13, 2015** 

#### General Fund Projects:

#### **University Division**

#### 1. Undergraduate Science Laboratory Building

This project is essential for accommodating the university's growing demand for STEM-H degrees. The proposed project envisions a new facility of 102,000 gross square feet of high quality instructional laboratories for basic and upper division sciences that will be located proximal to the new Classroom Building currently under construction.

#### 2. Engineering Renewal -- Holden Hall

Holden Hall was constructed in 1940 with 42,100 gross square feet and no major renovations or building improvements since going into service. This project proposes to fully renovate 21,000 gross square feet of the building and to raze the remainder and replace it with an 80,000 gross square foot addition. The revised building size will be 101,000 gross square feet to support the Mining and Minerals Engineering program, the Materials Science and Engineering program, and the Computer Science program.

#### 3. Chiller Plant, Phase II

This project is the second phase of a strategic plan to establish a campus centralized cooling system. The Phase I project completed construction for a new plant on the southwest area of campus in fiscal year 2015. This project will replace outdated equipment in the existing central plant on the north side of campus, install equipment in the open bays of the recently completed Southwest plant, and install distribution piping to connect the major plant systems and create a network for centralized campus cooling system.

#### 4. VTCRI Biosciences Research Addition

This project is to construct a four-story, 45,500 gross square foot addition to the existing Virginia Tech Carilion Research Institute building in Roanoke, VA. The program has filled the existing space to capacity. The addition will serve as a fully operational and

contained biomedical research and research education facility which is necessary to continue growing the research program.

#### 5. Neuroscience Research and Instruction Laboratory

This project is to construct a four-story, 80,000 gross square foot building to support demand for the recently implemented undergraduate degrees in neuroscience and nanoscience. The building program includes dense high performance wet laboratory spaces, neuroimaging laboratories, nanoscale imaging laboratories, and nanoscale characterization laboratories, supported by high intensity computational facilities.

#### 6. Translational Medicine Center, Phase I

The proposed facility is a critical element for the university's capacity to continue growing its medical and medical-related research. The project envisions 30,000 gross square feet of facility improvements and expansion at the veterinary hospital to provide biomedical facilities to support translational medical research and training.

#### 7. Engineering Renewal -- Randolph Hall

Randolph Hall was constructed in 1952 with an addition in 1959, and no major renovations since the construction was completed. The project envisions razing and replacing the entire 166,000 gross square foot existing building in phases and constructing a 40,000 gross square foot addition to optimize the available land to support engineering programs.

#### 8. Corps Leadership and Military Science Building

The Corps Leadership and Military Science Building envisions a 60,500 gross square foot building to provide efficient permanent space for Corps of Cadets and ROTC programs that are currently dispersed on the north area of campus. The proposed building location is in the northern portion of the existing Upper Quad near Lane Hall.

#### 9. Business School (Academic Portion of the Business Learning Community)

The envisioned project includes 205,000 gross square feet of new construction to house the Pamplin College of Business. The proposed overall size and internal spaces will provide appropriate facilities to sustain the existing enrollments and to support planned enrollment growth of the college. The proposed building will provide the college expanded, modern instructional space sufficient to meet demand for interactive learning including a variety of general purpose classrooms; specialized classrooms/learning laboratories; and seminar rooms.

#### 10. Architecture and Science Renewal -- Derring Hall

Derring Hall was constructed in 1969 with no major improvements or renovations since the original construction was completed. This request is to renovate and modernize approximately 118,000 gross square feet of the 208,000 total gross square foot building. The renovated space will provide a solution to consolidate the faculty and instructional activities of physically dispersed programs (including leases) for departments including the Center for Public Administration and Policy, Landscape Architecture, Economics, and the School of the Visual Arts.

#### 11. University Data Center

The University Data Center is envisioned to be a 40,000 gross square foot building that will be a resource to facilitate high performance computing and large scale data storage necessary for research. This project will support and partner with institutes, colleges, departments, and administrative areas to address needs for information storage, data transmission, and administration of university enterprise systems.

#### 12. <u>Library Storage Facility Addition</u>

The project envisions the construction of a 6,000 gross square foot addition to the high-density Records Management/Library Storage Facility located on Energy Drive. The addition will contain high-bay, self-supporting, heavy duty storage shelving capable of handling up to 750,000 volumes and will increase the ability to efficiently store and quickly retrieve materials. This project is required for large-scale modernization the Newman Library.

#### 13. Health and Safety Improvements

The university's health, safety, and accessibility initiative for the campus is an ongoing effort, and the university includes a request for this program in each capital plan. This project is to continue progress on needed campus improvements including accessibility improvements, fire alarm systems, and life safety repairs that are beyond the scope of the Maintenance Reserve program.

#### **Cooperative Extension/Agricultural Experiment Station Division**

#### 1. Renew Livestock and Poultry Research Facilities, Phase I

The agency has 37 facilities that support a variety of commercial agriculture industries in the Commonwealth. The assets total approximately 250,000 gross square feet, are generally 40 to 50 years-old, and have aged past their useful life. This project is the first of two phases to renew the assets, and this phase includes 126,000 gross square feet of new and renovated facilities for broiler layer research, turkey production, poultry breeding, swine breeding, farrowing, multiple hay barns, and support facilities for program personnel.

#### 2. Human & Agricultural Bioscience Building, Phase II

This project is to provide a second 92,000 gross square foot research space that will focus on interdisciplinary plant sciences within the Agricultural Experiment Station

including research laboratories, laboratory support space, research offices, faculty offices, and graduate student research space.

#### 3. Renew Livestock and Poultry Research Facilities, Phase II

This project requests the second phase of improvements to complete necessary updates to facilities for the agency work that supports key agriculture industries in the Commonwealth. This second phase includes 90,000 gross square feet of new and renovated facilities to support sheep, poultry, swine, equine and beef/cattle programs.

#### Nongeneral Fund Projects:

#### **University Division**

#### 1. Myers Lawson School of Construction, Phase II

This project envisions a 30,000 gross square foot expansion to Bishop-Favrao Hall, which houses the Myers Lawson School of Construction. The addition will accommodate demand for building construction programs and consolidation of program location for other college units

#### 2. <u>Virginia Bioinformatics Institute Data Center Improvements</u>

The existing data center at the Institute has reached capacity and cannot support the call for additional high performance computing and "big" data projects. This request includes the renovation of approximately 3,000 square feet within the existing building to hold computing equipment and building service upgrades for electrical and cooling infrastructure to support the requirements of high performance data processing.

#### 3. STEM Expansion Space

This project will provide space to accommodate the increase in the number of research active engineering and science faculty who will teach and mentor the growing population of undergraduate and graduate STEM majors. The new building, anticipated to be located in Phase Two of the Corporate Research Center, will include approximately 80,000 gross square feet with state-of-the-art laboratories to support clean room, dry laboratory, and wet laboratory programs.

#### 4. <u>Virginia Tech Transportation Institute Research Building, Phase IV</u>

The Virginia Tech Transportation Institute is projected to need a new building in approximately two years to serve research projects that will be coming online. This project envisions a 20,000 gross square foot addition for the Institute to house personnel and laboratory space.

#### 5. Center for Molecular Medicine and Infectious Disease Renovation

The center was built in 1970 and the facility can no longer support key research programs for the College of Veterinary Medicine. This project will renovate the research laboratories and support facilities of the complex to ensure appropriate facilities for the biological and life sciences research programs operating in the facility.

#### 6. Center Woods Complex Renewal

This project proposal is to renew the Center Woods Complex for the Fisheries and Wildlife program, located off Plantation Road, through a combination of renovations and replacements. This project envisions a total 13,200 gross square feet of new and refurbished mixed-use space that would include teaching and research space, offices, equipment storage and other support facilities.

#### 7. Falls Church (NVC) Land Purchase Option

This request provides authorization to exercise the land purchase option available to the university for property in Falls Church where the Northern Virginia Center is located.

#### 8. Virginia Tech Transportation Institute Research Building, Phase V

The Virginia Tech Transportation Institute is projected to need a new building, above and beyond the Phase IV building, in approximately five years based on research growth trends. This project envisions a 50,000 gross square foot project for the institute and is positioned in the capital plan in anticipation of the demand for research space.

#### 9. Manufacturing Prototype and Demonstration Facility

This project envisions a 15,000 gross square foot facility to be located in the Plantation Road area with its main feature being a flexible use mechanical laboratory that will enable the testing of large equipment including robotics. Programs of the College of Architecture and Urban Studies and the Institute for Critical Technology and Applied Science will share space in the building.

#### **Auxiliary Enterprises**

#### 10. O'Shaughnessy Hall Renovation

This project is part of a long-range strategic plan to modernize the inventory of campus residential facilities. The renovation will fully update the 70,000 gross square foot, 1966 facility and will incorporate additional hall lounges, community and study rooms, expanded bathroom facilities, and air conditioning.

#### 11. War Memorial Hall Renovation/Expansion

This project envisions a comprehensive renovation of the 123,000 gross square foot Recreation Sports portion of War Memorial Hall inclusive of envelope, mechanical,

electrical, and plumbing upgrades. Interior renovations will convert a majority of the gymnasium to new spaces to accommodate modern priorities in student recreation and sports, showers and lockers will be upgraded, and an addition will provide a new entry and expanded program space.

#### 12. Slusher Hall Renovation

This project is part of a long-range strategic plan to modernize the inventory of campus residential facilities. The proposed renovation will fully update the 126,000 gross square foot, 1972 facility and will incorporate additional hall lounges, community and study rooms, expanded bathroom facilities, and air conditioning. The planning work will explore alternatives to expand the foot print of the building and optimize its land use footprint.

#### 13. Softball and Indoor Track Facility Improvements

Rector Field House is a 71,000 gross square foot facility which was built in 1971 and serves a majority of olympic sports. This building has deferred maintenance including mechanical system repairs and does not have restrooms and seating sufficient for events held at the field house. The project would address the needs for a women's softball hitting facility as well as the needs for improvements for the indoor track and field programs.

#### 14. Baseball Field Press Box and Restrooms

This project proposes a renovated and expanded facility totaling 10,000 gross square feet. It provides improvements to the existing press box and restrooms at English Field allowing the facility to meet the expectations of fans and media support personnel.

#### 15. Squires Hall Partial Replacement

Squires Hall is a 235,000 gross square foot student center that was originally built in 1937, with an addition and renovation occurring in 1969. The facility houses multiple student activity functions and academic departments. This project proposal is to provide new space to relocate a portion of the student activities to bring it up to modern standards for both student life and music instruction. A long range backfill program includes renovating the vacated portions to academic use.

#### 16. Owens Dining Hall Renovation

Owens Hall is a 98,000 gross square foot dining facility constructed in 1939 with several small scale interior renovations, the latest completed in 1991. The building has accumulated substantial deferred maintenance and requires a major renovation to continue service in the long term. This project proposes to implement interior and exterior renovations including restrooms, dining area, food service, and dining venue stations, and to address deferred maintenance.

#### 17. Electronic Door Access for Residential System

This project proses to install electronic door access to all doors within the residence hall system, which would allow for improved convenience and services to students including lost key services and real time central management of access.

#### **Cooperative Extension/Agricultural Experiment Station Division**

#### 1. Eastern Shore Multipurpose AREC

This project envisions a 9,000 square foot multipurpose building for the Eastern Shore Agricultural Research and Extension Center.

#### 2. Middleburg Equine Arena

The current equine facilities at the Agricultural Research and Extension Center in Middleburg, Virginia are not adequate to support the research and outreach education activities. The proposed project is for a 16,000 gross square foot equine arena to accommodate the program needs.

#### **Northwest Community Planning**

The university is working on a major facility visioning exercise to develop new facilities in the existing campus land bank. The location is the area south of the Inn at Virginia Tech on a portion of the remaining campus golf course. The program for the area is a residential college with capacity to house 2,100 students in six residence halls; a commons buildings with recreation, dining, and student activity space; and necessary utilities and infrastructure to support the new development. The development includes siting for the Business School listed on Attachment A, which when combined with a component of residential facilities will establish a Business Learning Community.

Planning work is in the early stages with scope and program still in development. The major elements are listed at the bottom of Attachment B with a range of magnitude costs displayed as low and high until more information is known.

The overall vision is being considered as a phased implementation as described below. The timing of the phases will be determined with refined planning work.

#### Phase One:

#### Residential College Facilities for 1050 students

This component envisions the construction of three new resident halls with 350 beds each and community space to support special programming.

#### **University Commons**

This component is envisioned as part of the Northwest community development to support the dining, recreation, and student activity space of the envisioned 2,100 students of this new community and the students of the existing special purpose housing community.

#### Infrastructure and Utilities

The existing land bank does not have the necessary cooling, heating, parking, roads, power, or other infrastructure to support the envisioned development. This component will plan and implement the appropriate infrastructure.

#### Phase Two:

#### Residential College Facilities for 1050 students

This component is a second set of three new resident halls with 350 beds each and community space to support special programming. The combination of this component and the residential college facilities in phase one will establish the necessary capacity to house 2,100 students.

#### Phase Three:

#### Business School

This phase includes the Business School project listed on Attachment A. This building component will be integral to the community and may be implemented as state resources and private support become available. The plan envisions conjoining the Business School with a component of the residential facilities to form a Business Learning Community.

#### Capital Project for the Virginia Bioinformatics Institute Data Center Expansion

### JOINT BUILDINGS AND GROUNDS COMMITTEE AND FINANCE AND AUDIT COMMITTEE

July 17, 2015

The Virginia Bioinformatics Institute (VBI) was established in 2000 with the mission to lead the Commonwealth's and the university's efforts to become a national and international leader in the field of bioinformatics and to enhance the state's overall efforts in the life sciences. Since opening in 2000, VBI has grown from a staff of five in a small temporary leased space in the Corporate Research Center (CRC) to a major research engine with over 250 employees and about 130,000 gross square feet of oncampus laboratory space.

The Institute is a critical research engine for the university with over 83 research projects, a total current research portfolio of \$102 million, and a three-year average of \$17 million of annual research expenditures. The university's vision to expand research under the Institute is a key strategic initiative for the future. The primary growth areas for VBI require high performance computing capabilities to operate web-based tools with real-time computing capabilities to support interactive applications backed by advanced computing models.

The Institute has two existing data centers that are operating at full capacity and cannot support additional computing requirements. Thus, more high performance computing capability is required to support a significant further expansion of the Institute's sponsored research activity. The proposed solution is to convert approximately 2,700 square feet of underutilized laboratory space on the first floor to a high performance data center. The renovation to support the new data center will require upgrades to the building's power supply (additional two megawatts), cooling service, cooling racks, and computing equipment.

VBI has secured a grant from the Defense Threat Reduction Agency (DTRA) that would pay for additional sponsored research and the computing equipment needed to outfit a high performance computing data center. The Federal funds associated with this grant for equipment will be available in October, 2015 and must be expensed by August 2016. The research grant will not cover the necessary building and infrastructure upgrades needed for the data center.

This request is for a \$5.9 million renovation project to make the necessary building and infrastructure upgrades to establish a new high performance data center within the Institute. As with all self-supporting projects, the university has developed a financing plan to provide assurance regarding the financial feasibility of the overall project. The university has worked conjointly with the Institute on a funding plan that calls for internal financing that will be repaid over time by overhead revenues generated from the Institute's grants and contracts.

Under the 2006 Management Agreement between the Commonwealth of Virginia and the university, the Board of Visitors has the authority to approve the budget, size, scope, debt issuances, and overall funding of nongeneral fund capital outlay projects. This request is for a \$5.9 million project authorization for the Virginia Bioinformatics Institute Data Center renovation project.

### RESOLUTION ON CAPITAL PROJECT FOR VIRGINIA BIOINFORMATICS INSTITUTE DATA CENTER EXPANSION

**WHEREAS**, the university's vision to expand research under the Virginia Bioinformatics Institute (VBI) is a key strategic initiative for the future of the institution; and,

**WHEREAS**, VBI requires additional high performance computing capabilities to grow research activity; and,

**WHEREAS**, the Institute has secured a grant from the Defense Threat Reduction Agency (DTRA) that would pay for additional sponsored research and the specialized equipment needed for a high performance computing data center; and,

**WHEREAS**, the Federal funds associated with this grant would be available in October, 2015 and the research grant will not cover the necessary building and infrastructure upgrades needed to support a high performance computing data center; and,

**WHEREAS**, the proposed project is a renovation to the existing building that would upgrade the services for electrical and cooling infrastructure and renovate approximately 2,700 gross square feet of space on the ground level necessary to support a new data center; and,

**WHEREAS**, the cost of the project is \$5.9 million and the university has developed a 100 percent nongeneral fund resource plan to support the costs; and,

**WHEREAS**, under the 2006 Management Agreement between the Commonwealth of Virginia and the university, the Board of Visitors has authority to approve the budget, size, scope, debt issuances, and overall funding of nongeneral funded capital outlay projects;

**NOW, THEREFORE, BE IT RESOLVED**, that the university be authorized to move forward with the planning and construction of the Virginia Bioinformatics Institute Data Center Expansion project at a total project cost not to exceed \$5.9 million.

#### **RECOMMENDATION:**

That the resolution authorizing Virginia Tech to complete the Virginia Bioinformatics Institute Data Center Expansion be approved.

#### **Committee Minutes**

#### **Committee on Research**

Falls Church Room
Virginia Tech Research Center - Arlington
11:00-11:59 a.m.

August 30, 2015

#### **Committee Members Present:**

Mr. Dennis H. Treacy Dr. Nancy Dye Mr. B. K. Fulton Mr Mehmood Kazmi

#### **Guests:**

Dr. Timothy Sands, Dr. Thanassis Rikakis, Mr. Dwight Shelton Jr., Mr. James L. Chapman, Dr. Mr. William D. Fairchild III, Mr. Charles T. Hill, Mr. Michael J. Quillen, Ms. Deborah Petrine, Rev. Wayne H. Robinson, Dr. J. Thomas Ryan, Mr. Mehul Sanghani, Mr. Stephen Sturgis, Mr. Horatio Valerias, Mr. Robert R. Broyden, Ms. D'Elia Chandler, Mr. Rami Dalloul, Mr. Martin Daniel, Mr. Gannon Davis, Dr. Dennis R. Dean, Dr. Karen DePauw, Dr. John Dooley, Dr. Srinath Ekkad, Dr. Jack Finney, Dr. Lance Franklin, Dr. Guru Ghosh, Ms. Natalie Hart, Ms. Kay Heidbreder, Mr. Tim Hodge, Mr. Lawrence Hincker, Ms. Elizabeth Hooper, Ms. Sharon Kurek, Dr. Steven McKnight, Dr. Steve McKnight, Dr. Scott Midkiff, Ms. Kim O'Rourke, Dr. Patricia A. Perillo, Charles Phlegar, Dr. Ellen Plummer, Mr. J. Scot Ransbottom, Dr. Sanjay Raman, Mr. Mohammed Seyam, Ms. Savita Sharma, Mr. Ken Smith, Mr. Nick Stone, Ms. Morgan Sykes, Dr. Sherwood Wilson, Mr. Chris Yianilos, and Ms. Beth Tranter.

- 1. Opening Remarks and Approval of May 31, 2015 Minutes. Mr. Treacy called the meeting to order and welcomed those in attendance. He thanked Dr. Dennis Dean for his continued service as Interim Vice President for Research and Director of the Fralin Life Science Institute. He also noted the expansion of the mission of the Office of the Vice President for Research to include Innovation. The minutes were unanimously approved.
- 2. Remarks from the President. Dr. Sands welcomed those in attendance, and welcomed Dr. Thanassis Rikakis, as Executive Vice President and Provost. Dr. Sands noted the opportunity of the office to leverage its many assets in innovation to enhance the Virginia Tech student experience, and to extend the benefits of university research through technology transfer. Dr. Sands also noted the role that the university's presence in the National Capital Region can play in the enhancement of experiential learning opportunities for Virginia Tech students.

- 3. **Resolution for Exclusion of Certain Officers/Directors**: Dr. Dean provided an overview of the Resolution for Exclusion of Certain/Officers/Directors. The resolution was unanimously approved by the committee.
- 4. Resolution for Revision to Policy No. 13010: Individual Conflicts of Interest and Commitment: Dr. Dean reviewed the proposed changes to this policy, which was updated to include edits for clarity, requirements of the Department of Health and Human Services, updates to align with changes in state law, and updates related to administrative routing of documents. The resolution was unanimously approved by the committee.
- 5. 2014-2015 Annual Report: Dr. Dean provided an overview of the research enterprise in FY 2015. Dr. Dean first noted faculty excellence is scholarship, as evidenced by growing numbers of studies by Virginia Tech faculty in publications such as The New England Journal of Medicine, Science Express, and the Proceedings of the National Academy of Sciences. Such publications indicate that faculty are conducting high-impact research. Virginia Tech's research expenditures increased to more than a half a billion dollars in fiscal year 2014. The 2014 total, \$513.1 million, was provided to the National Science Foundation (NSF) earlier this year and will be used to rank Virginia Tech among approximately 800 universities and colleges in the nation in the NSF's annual survey of higher education research expenditures. The NSF is expected to announce new rankings in November 2015. Until then, Virginia Tech is No. 38 in the nation in NSF's annual survey. Among the goals priorities for 2016 are to increase industry and corporate engagement and enhancement of Virginia Tech's innovation ecosystem, particularly the student experience through entrepreneurial activities and living-learning communities.

#### Adjournment.

There being no further business, the meeting adjourned at 11:59 a.m.



# 2014-2015 Annual Report

Office of the Vice President for Research and Innovation



# Agenda

- FY 2015 Research Overview
- Mechanisms for Research Growth
- o FY 2016 Priorities



### Mission

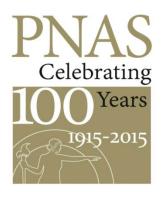
Enable the faculty to perform world-class research and scholarship



A Virginia Tech Transportation Institute study has vaulted to the Top 15 most-read of more than 10,000 studies published by the prestigious, 200-year-old journal.



Researchers with the Fralin Life Science Institute have identified a gene responsible for sex determination in mosquitoes, making it possible to convert females into harmless males or selectively eliminate deadly females.



Virginia Tech authors in the Proceedings of the National
Academy of Science in 2014-2015 include faculty from Virginia
Tech Carilion Research Institute, Fralin Life Science Institute,
Virginia Bioinformatics Institute, Biological Systems
Engineering, Occoquan Watershed Monitoring Laboratory, Civil
and Environmental Engineering, Entomology, Computer
Science, Fish and Wildlife Conservation, and more!



### **Awards**



Rolf Mueller, associate professor of mechanical engineering in the has received an IBM Faculty Award to develop computing techniques modeled on the mammalian brain.



Dushan Boroyevich, American Electric Power professor of electrical and computer engineering, was inducted into the National Academy of Engineering in 2014.



In 2014, **Raffaella De Vita**, associate professor of engineering science and mechanics, received the Presidential Early Career Award for Scientists and Engineers (PECASE).



X. J. Meng, University
Distinguished Professor of
Molecular Virology at
Virginia Tech, has been
named a Fellow of the
National Academy of
Inventors (NAI) in 2014.

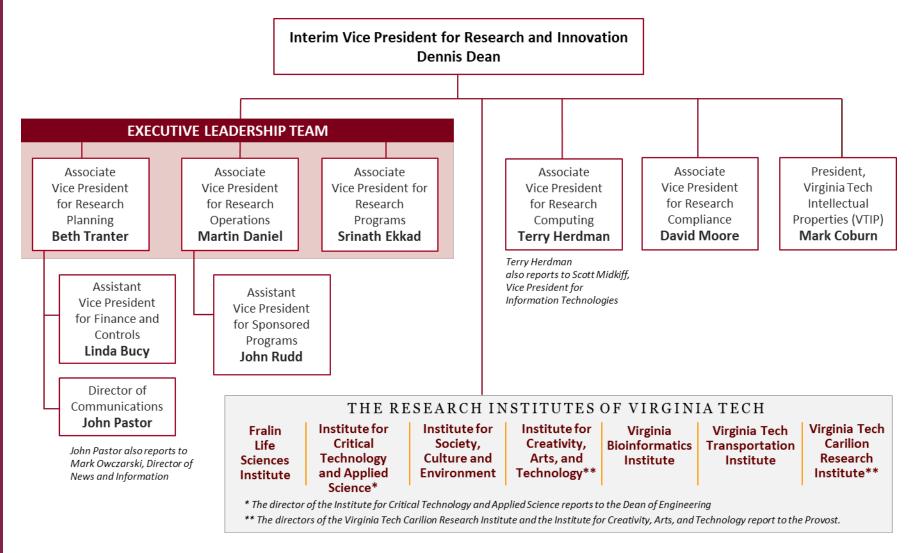
The National Academies of SCIENCES • ENGINEERING • MEDICINE

#### Virginia Tech faculty have included:

16 National Academy of Engineering members
 5 National Academy of Sciences members



#### Office of the Vice President for Research and Innovation



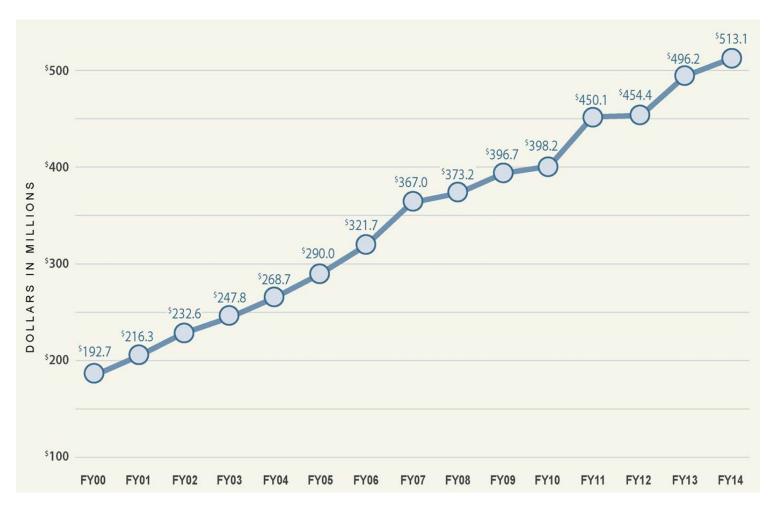


### NSF-reported Research Expenditures

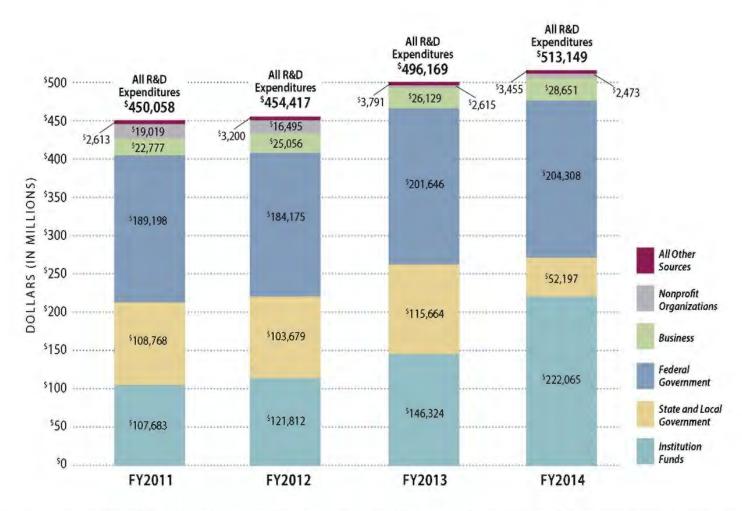
- "NSF-Reported Expenditures" is the bellwether measure of research productivity in the U.S. higher education industry
- Some important considerations:
  - The National Science Foundation (NSF) reports these data, but the "NSF-Reported Expenditures" total includes <u>all</u> R&D expenditures regardless of agency or source.
  - The term "Expenditures" is somewhat of a misnomer; NSF has reports funds when they are spent rather than when they are received because the U.S. economy is impacted at the point of expenditure, not award. It also reflects research that has been performed, rather than promised.
  - There is an inherent lag in obtaining comparison data. The most recent set of data from NSF was published in early 2015 on the fiscal year that ended more than 18 months earlier – June 2013.



### NSF-reported Research Expenditures FY 2000 – FY 2015



### NSF-reported Research Expenditures



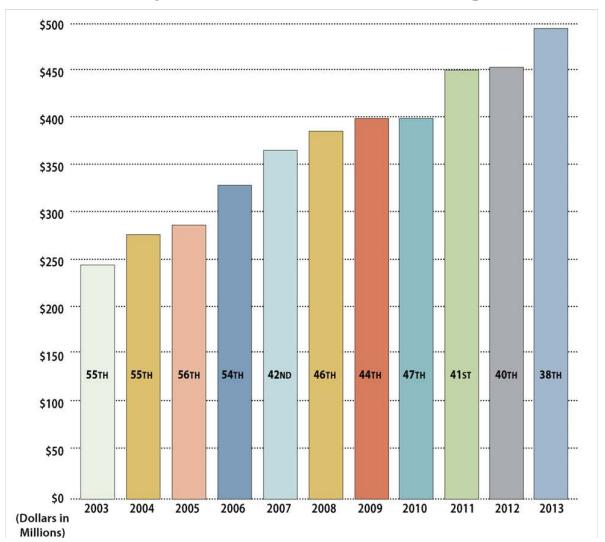
Note: In FY14, approximately \$68 million in expenditures were reclassified from "State & Local Government" to "Institutional Funds" to better align Virginia Tech's NSF expenditures with those of our peer institutions.



### **NSF Research Expenditure Rankings**

#### Rankings of selected Virginia Institutions in FY 13

Virginia Tech	38th
University of Virginia (main campus)	59th
Virginia Commonwealth University	103rd
George Mason University	148th
Eastern Virginia Medical School	205th





### Extramural Expenditures FY 2005-2015

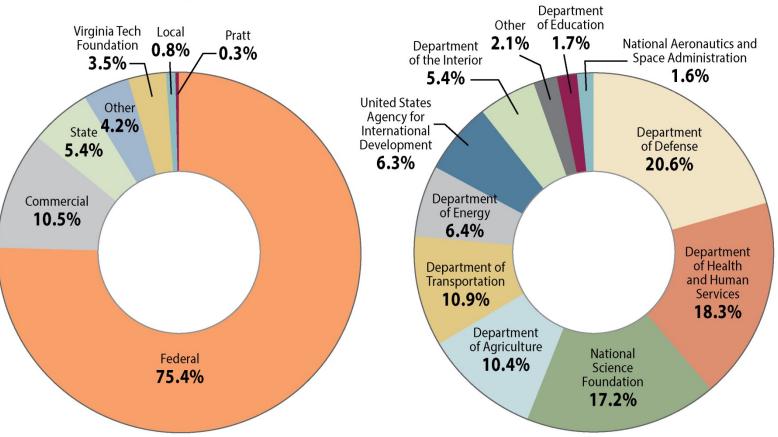




### FY15 Sponsored Expenditures



#### **Federal Sources**



**Total** from all sources: **\$283,518,324** 

Total from federal sources: \$213,718,381



# Federal academic science and engineering obligations, by agency in FY 2013 rank order: FY 2011–13

Fiscal Year		All agencies	HHS	NSF	DOD	USDA	DOE	NASA	Other agencies
CURRENT \$ MILLIONS									
2044	AGENCY TOTAL	\$31,460	\$18,164	\$5,113	\$3,923	^{\$} 1,449	\$1,160	\$592	\$1,059
2011	VIRGINIA TECH TOTAL	\$ <b>195</b>							
	AGENCY TOTAL	\$30,848	\$17,904	\$5,114	\$3,637	\$ <b>1,220</b>	\$1,018	\$971	\$985
2012	VIRGINIA TECH TOTAL	\$201							
	AGENCY TOTAL	\$29,034	\$16,839	\$4,911	\$3,365	\$ <b>1,136</b>	^{\$} 1,054	\$884	\$847
2013	VIRGINIA TECH TOTAL	<b>\$223</b>							

DOD = Department of Defense; DOE = Department of Energy; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; NSF = National Science Foundation; USDA = U.S. Department of Agriculture.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, FY 2013.



# Top 15 Projects

	GRANT TITLE	AMOUNT	PRINCIPAL INVESTIGATOR	DEPARTMENT
1	EMBERS: Early Model Based Event Detection using Surrogates	\$7,873,788	Narendran Ramakrishnan	Computer Science
2	Capacity Building for Agricultural Education and Research in Senegal (CBAER)	\$3,787,905	Keith M. Moore	Office of International Research, Education, and Development (OIRED)
3	Comprehensive National Incident Management System (CNIMS)	\$3,649,213	Christopher L. Barrett	Virginia Bioinformatics Institute (VBI) – Advanced Computing and Informatics Laboratories (ACIL)
4	Supplemental Nutrition Assistance Program: Education (SNAP-Ed)	\$3,302,817	Elena L. Serrano	Family Resources Program
5	Pathosystems Resource Integration Center - Bioinformatics Resource Center for Bacterial Diseases	\$3,162,200	Bruno W. Sobral	VBI – ACIL
6	Advanced Wireless Systems and Technologies	\$3,063,192	Robert W. McGwier	Hume Center
7	A New Paradigm for Implementing Ecologically-based Participatory Integrated Pest Management (IPM) in a Global Context	\$2,996,232	Keith M. Moore	OIRED
8	Injecting Carbon Dioxide into Unconventional Storage Reservoirs in the Central Appalachian Basin	\$2,569,132	Michael E. Karmis	Mining and Minerals Engineering



# Top 15 Projects (continued)

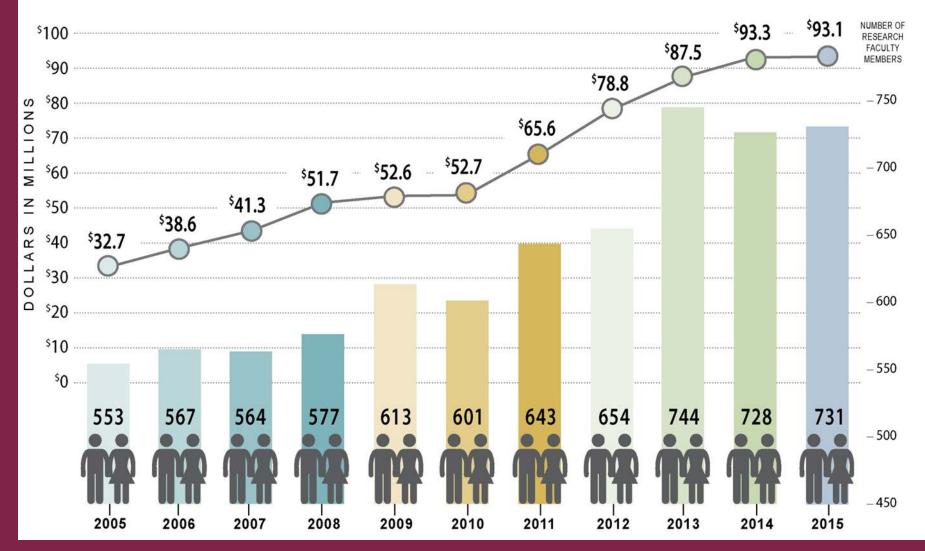
	GRANT TITLE	AMOUNT	PRINCIPAL INVESTIGATOR	DEPARTMENT
9	SANREM CRSP - Management Entity (Stakeholder Empowerment through Knowledge-Based Sustainable Agriculture and Natural Resource Management)	\$2,278,680	Keith M. Moore	OIRED
10	MIEP: Modeling Immunity to Enteric Pathogens	\$2,051,101	Josep Bassaganya-Riera	VBI – ACIL
11	U.S. DOE Tier 1 University Transportation Center	\$2,005,298	Thomas A. Dingus	Virginia Tech Transportation Institute (VTTI)
12	Integrated Management of Oomycete Diseases of Soybean and Other Crop Plants	\$1,959,461	John M. McDowell	Plant Pathology, Physiology, and Weed Science
13	S31 Crash Reduction (Contract S31: NDS Data Dissemination Activities - Task 1.3 Crash/Near Crash Database: Additional Crash and Near-Crash Reduction)	\$1,801,000	Jonathan M. Hankey	VTTI
14	Supplemental Nutrition Assistance Program: Education (SNAP-Ed)	\$1,786,462	Mary M. McFerren	Family Resources Program
15	Commercial Motor Vehicle (CMV) Driver Restart Study	\$1,630,547	Richard J. Hanowski	VTTI



### **U.S.** Collaborations



# Research Faculty – (Non T/R)







### **Mechanisms for Research Growth**



### Foster Interdisciplinary Research

**Institute for Critical Technology** and Applied Science

Virginia **Bioinformatics** Institute

FY 15 - \$20, 093,944

Virginia Tech **Transportation Institute** 

FY 15 - \$33,915,390

Institute

for

Creativity,

Arts, and

Virginia Tech Carilion Research **Institute** 

FY 15 - \$8,984,608



Fralin Life Science Institute



**Institute for** Society, Culture and **Environment** 

### Increase Industry Engagement





### Corporate Engagement

- OVPRI and University Development (UD) combining efforts to approach corporate entities.
- OVPRI and UD now meet with potential industry partners together and provide a comprehensive strategy for engagement with VT to the industrial entity.
  - Includes independent research projects, gifts, donation of equipment, scholarships, etc.
- A proposed Principal Partners Program (PPP) will target specific corporate partners
- Piloted the new technology fee option in sponsored contracts
  - Corporate partner pays 20% over the project costs to retain intellectual property rights. Several projects already underway.
  - Expedites contract negotiations and increases corporate interest in Virginia Tech research expertise
- Two major comprehensive partners in the past year.
  - o Proctor & Gamble
  - United Technologies Aerospace Systems (UTAS)





# **FY 2016 Priorities**



### Research Administration

Mission: Empower faculty to perform world-class research

- Implement new approach to faculty / college / institute engagement,
   with a focus on service and efficacy.
- Advance automation of key administrative systems via the Comprehensive Research Enterprise Solutions Team (CREST).
- Pursue University-wide Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC) International Collaboration.
- Continue infrastructure development for large-scale proposals not affiliated with Research Institutes.



### Enhance the Innovation Ecosystem

**Enhance the Student Experience** 

**Living Learning Communities** 





Entrepreneurship Conference November 12-14, Blacksburg, VA



**Ideation Spaces** 



E-club

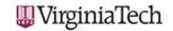


Pritchard Venture Lab opens Fall 2015!















# Washington Entrepreneurs Summer Semester Experiential Learning at Virginia Tech

The Washington Entrepreneurs Summer Semester (WESS) offers Virginia Tech rising juniors and seniors a new, interdisciplinary experience in the Washington, D.C. metro area while earning credit toward a degree.

During the 12-week program – based in the National Capital Region – WESS students have the opportunity to experience entrepreneurship through:

- Engagement in an entrepreneurial internship
- Instruction centered on core entrepreneurial concepts
- Mentoring from experienced entrepreneurs and educators

Courses and seminars held at the Virginia Tech Research Center – Arlington and at Virginia Tech's campus in Old Town Alexandria.







# Virginia Tech Investors Network (VTIN)



VT Investor Network seeks to finance promising start-ups in which a founder, board member, or active investor is a Virginia Tech graduate, student, or faculty member.

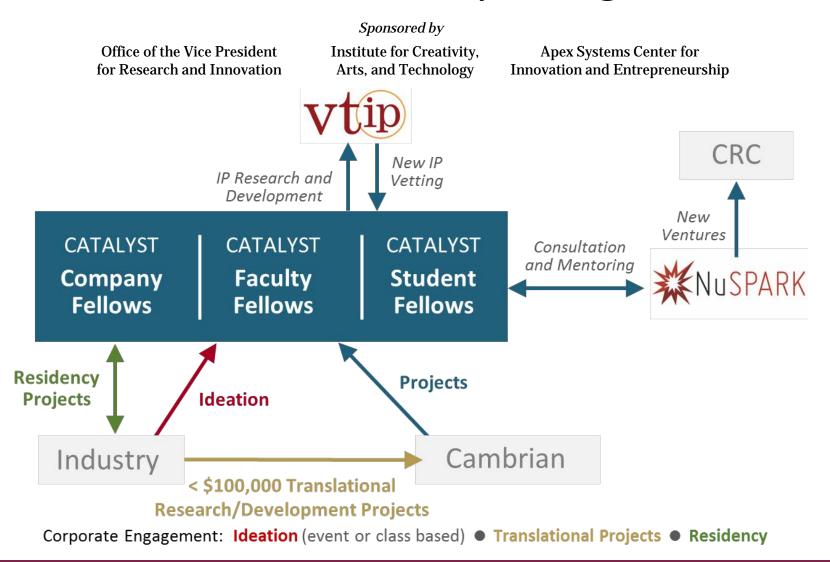
- # of VTIN members 94
- # of companies applied 60
- # of companies presented 10
- # of companies invested in
  - FitNet
  - ThreatQuotient
  - Card Isle
  - Riff
  - LifeFuels



# of dollars - \$2.38m invested in Hokie-led companies



# New in 2015 – Catalyst Program



### **Entrepreneurship Website**

www.entrepreneurship.vt.edu



# Thank you!



#### RESOLUTION FOR EXCLUSION OF CERTAIN OFFICERS/DIRECTORS

**WHEREAS**, Virginia Polytechnic Institute and State University ("Virginia Tech") was determined by the Department of Defense (DoD) to be a facility authorized to be eligible for access to classified information or award of classified contracts in 1960 and years following, with the most recent authorization in 2011, and

WHEREAS, in accordance with the National Industry Security Program Operating Manual (NISPOM), Cognizant Security Agencies (CSAs) require certain principal officers, directors, partners, regents, or trustees, and those occupying similar positions at institutions of higher education meet the personnel security clearance requirements established for the level of the institution's facility security clearance or be formally excluded; and

**WHEREAS**, the NISPOM permits the exclusion from the personnel clearance requirements of said principal officers et al. on the basis that these cited individuals shall not require, shall not have, and can be effectively excluded from access to all classified information disclosed to Virginia Tech, and do not occupy positions that would enable them to affect adversely corporate policies or practices in the performance of classified contracts, as determined by a CSA.

**NOW THEREFORE BE IT DECLARED**, that the Board of Visitors hereby formally appoints a managerial group with the authority and responsibility for the negotiation, execution, and administration of classified contracts ("Key Management Personnel"), consisting of the following principal officers within Virginia Tech: President, University Legal Counsel, Chief Contracting Officer, Senior Research Compliance Officer, Senior Contracts Officer, and Facility Security Officer (specified by name in Attachment A).

**BE IT RESOLVED,** that the President and the said managerial group at the present time do possess, the required security clearance, and

**BE IT RESOLVED FURTHER**, that in the future, when a CSA determines that additional Virginia Tech officials must be added to said managerial group and be granted personnel clearances or excluded from classified access pursuant to the NISPOM, such requirements shall be made and approved by the Key Management Personnel, and not the Board of Visitors, unless approval by the Board of Visitors is formally required by the CSA, and

**BE IT RESOLVED FURTHER**, that the appended list of all members of the Board of Visitors (specified by name in Attachment B) shall not require, shall not have, and can be effectively excluded from access to all classified information in the possession of Virginia Tech, and do not occupy a position that would enable them to affect adversely Virginia Tech policies or practices in the performance of classified contracts. A copy of this resolution shall be provided to CSAs as required by the NISPOM.

#### **RECOMMENDATION:**

That this resolution be adopted.

# ATTACHMENT A: List of Key Management Personnel by name who must be granted personnel clearances or excluded from classified access pursuant to the NISPOM per Board of Visitors Resolution, August 31, 2015

President
Legal Counsel
Chief Contracting Officer
Senior Research Compliance Officer
Senior Contracts Officer
Facility Security Officer

Dr. Timothy Sands Kay K. Heidbreder, Esq. M. Dwight Shelton, Jr. Linda R. Bucy John C. Rudd Jr. David A. Brady

### ATTACHMENT B: List of Board of Visitors Members to be excluded per Board of Visitors Resolution, August 31, 2015

Mr. James L. Chapman, IV

Dr. Nancy V. Dye

Mr. William D. Fairchild, III

Mr. B. Keith Fulton

Mr. Charles T. Hill

Mr. Mehmood S. Kazmi

Ms. Deborah Petrine

Mr. Michael Quillen

Rev. Wayne H. Robinson

Dr. J. Thomas Ryan

Mr. Mehul Sanghani

Mr. Steve Sturgis

Mr. Dennis H. Treacy

Mr. Horacio Valeiras

### RESOLUTION TO REVISE POLICY 13010 INDIVIDUAL CONFLICTS OF INTEREST AND COMMITMENT

**WHEREAS**, the increasing complexity of relationships among faculty researchers, sponsored research, and involvement with external entities has given rise to considerable public concern about conflicts of interest and heightened scrutiny by federal agency sponsors; and

WHEREAS, university policy 13010 on conflicts of interest and commitment was substantially revised in August 2012, based on the work of a University Task Force on Consulting and Conflicts of Interest; and

WHEREAS, the National Institutes of Health provided additional guidance regarding sufficiency of university policies and procedures relative to Public Health Services (PHS) funded grants; and

**WHEREAS,** the state requirements for reporting have changed since adoption of the August 2012 revision; and

**WHEREAS**, policy revisions are intended to improve the clarity of expectations for all university employees, to address new state requirements, to address federal PHS requirements, and to update information regarding administrative routing of documents;

**NOW, THEREFORE, BE IT RESOLVED,** that policy 13010, Individual Conflicts of Interest and Commitment, be revised as attached and that the 2015 Faculty Handbook be revised to incorporate all necessary changes related to the new policy.

#### **RECOMMENDATION:**

That revised policy 13010, Individual Conflicts of Interest and Commitment, be approved effective August 31, 2015.

#### Virginia Polytechnic Institute and State University No. 13010 Rev.: 6 Policy and Procedures Date: August 31, 2015

#### **Subject: Individual Conflicts of Interest and Commitment**

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2. Policy	2
2.1 Potential Conflicts Involving Research and Development Contracts or Commercialization of Intellectual	
Property	
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2.3 Potential Conflicts Involving Students and Post-Doctoral or Other Trainees	4
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#### 1. Purpose

Virginia Tech recognizes that external activities congruent with the professional expertise of faculty and staff consistent with the mission of the affiliated department can enhance professional development of the employee and enrich the academic experiences of students. Activities such as licensing of technology, consulting, or business start-ups can be critical to promoting economic development and meeting society's needs. Given these potential benefits, Virginia Tech has encouraged innovation and entrepreneurial activity in support of the broad missions of the institution. However, the primary professional allegiance of the employee must be, both in fact and in perception, to the university, and the primary commitment of the employee's time and intellectual energies must be devoted to the education, research/scholarship, administration, and outreach programs of Virginia Tech. While external activities are encouraged, the integrity of the institution and of the research conducted by individual faculty, staff and students depends on a high degree of transparency and appropriate oversight of relationships with outside entities. Elimination or careful management of disclosed potential conflicts of interest provides assurance to research sponsors, subjects, and the broader public that possible personal gain has not influenced the design, conduct, or outcomes of the research, nor inappropriately biased decision making in other university activities. This policy provides the basic framework for assessing potential conflicts of interest or commitment and outlines related procedures for the management and monitoring of external activities in a manner that will both promote and safeguard the interests and reputation of Virginia Tech, its faculty, staff and students, and their research and other university activities.

#### 2. Policy

All Virginia Tech employees must be committed to conducting themselves in accordance with the highest standards of integrity and ethics. This policy defines an employee to include all types of faculty, staff or employed students, whether full or part-time.

Faculty guidance is provided in the Professional Responsibilities and Conduct in the Faculty Handbook as well as in other university policies. These standards also include identification of the potential for *conflicts of interest and commitment*, and the assurance that participation in external activities does not improperly affect the faculty member's teaching and research, relationships with students or colleagues, or otherwise jeopardize the reputation of the university.

Issues of conflict of interest and commitment are also addressed in the university's Statement of Business Conduct Standards. All employees must acknowledge receipt of the statement and agree to abide by these standards. Other university policies such as the Staff Handbook include standards of ethics which apply to all employees.

A *conflict of commitment* arises when the external activities of a faculty member or employee are so demanding of time, attention, or focus that they interfere with the individual's responsibilities to the university.

The Faculty Handbook also provides stated limitations on consulting activities and further guidance on assessing and managing conflicts of commitment and outside employment for all types of faculty members. Special consulting policies apply for faculty with Cooperative Extension appointments and for all faculty members in the College of Veterinary Medicine; these policies are included in unit specific policy and procedure documents. University Policy 4070, Additional /Outside Employment for Salaried, Classified and University Staff, addresses external activities conducted by classified and university staff. Please see these documents for a more complete discussion of conflicts of commitment and expectations of all Virginia Tech employees.

An *individual conflict of interest* occurs when an employee is in a position to advance one's own interests or that of one's family or others, to the detriment of the university.

In essence, a conflict of interest may occur when an individual's private interests influence his or her professional obligations such that an independent observer might reasonably question whether the individual's actions or decisions are determined by considerations of personal gain, financial or otherwise. A conflict of interest is assessed based on the factual context of the situation; it is not based on any implied judgment about the character or intent of the individual.

State and federal law define differently a *significant financial interest* and the conditions under which a conflict of interest may be deemed acceptable. The *Virginia State and Local Government Conflict of Interests Act* defines a prohibited conflict of interest when an employee, or a company in which the employee or member of the employee's immediate family has a personal interest, contracts directly or through a subcontract with the state institution of higher education. In this instance, a *personal interest* is defined as owning three percent or more of the equity in the company or receiving payments from the entity of \$5,000 or more annually from consulting fees, salary, royalties, honoraria, rent, or other income.

In the case of grants and contracts, federal agency guidelines on conflict of interest disclosure apply in addition to state requirements. As a result, investigators are required to disclose personal financial interests beyond that required by state law in order to comply with sponsoring agency regulations. For publicly traded entities, a significant financial interest exists if the value of any remuneration received from the entity in the twelve months preceding the disclosure and the value of any equity interest in the entity as of the date of disclosure, when aggregated, exceeds \$5,000. For non-publicly traded entities, the threshold is \$5,000 for remuneration *or* when the investigator or investigator's spouse or immediate family members hold *any* equity interest (e.g. stock, stock option, or other ownership interest). A definition of significant financial interest and a list of income and investments excluded from disclosure requirements are included in section 6 (Definitions) of this policy and on the Conflict of Interest (COI) website maintained by the Office of the Vice President for Research and Innovation.

#### Virginia Polytechnic Institute and State University Revision:6

Attachment R
Policy 13010
August 31, 2015

The required disclosures are those that are reasonably related to the investigator's institutional responsibilities. Institutional responsibilities are defined broadly and include but are not limited to teaching, advising, research and scholarly activities, outreach, administrative and institutional committee service, and service to professional associations or on panels such as peer, institutional, or accreditation review boards.

Individuals in administrative positions have substantial influence by virtue of their roles in professional appointments, promotions, tenure decisions, allocations of space, determinations of salary, execution of business contracts, etc., and they must take particular care to avoid relationships that have the potential to advantage the individual but adversely affect the university's interests or inject inappropriate considerations into administrative decisions. Administrators must be vigilant in exercising their authority so that their decisions are not in fact, nor do they appear in the perception of others to be, influenced by personal conflicts of interest.

### 2.1 Potential Conflicts Involving Research and Development Contracts or Commercialization of Intellectual Property

To ensure compliance with federal regulations and to provide consistent institutional policies and practices in relation to all research sponsors, investigators engaged in sponsored activities must disclose any financial interest that meets or exceeds the federal definition of significant financial interest as detailed in the Definitions section of this policy. The investigator must present a complete picture of his or her financial interests, not just those interests related to a specific funded project. Examples of potential conflicts of interest in research and development (R&D) that must be reported by investigators are available on the COI website. Investigator obligations for disclosure extend to collaborators, consultants, and subcontractors on a Public Health Services (PHS) funded sponsored project. These individuals must certify disclosure and compliance with conflict of interest policies promulgated by their home institution or, in the absence of relevant institutional policies, must disclose in accordance with Virginia Tech policies and procedures. Subcontractors, consultants and collaborators requesting to use Virginia Tech's Policy 13010 must update their conflict of interest disclosure when individual events change or when requested by Virginia Tech.

Contracts between employee-owned businesses and the university that involve research and development activities and/or commercialization of intellectual property are permitted by state law provided that disclosure and approval requirements of this policy are followed. In the case of a sponsored project funded by an employee-owned business, the role of the employee-owner in relation to the university research project must be carefully examined. The employee-owner may only serve as principal investigator (PI)with an independent co-principal investigator responsible for financial oversight of the project, never as sole PI. Work done on behalf of an employee- owner's company in a university facility must be done in accordance with the provisions of Policy 5000, University Facilities Usage and Event Approval. Because of the high potential for appearance of an irresolvable conflict of interest in the case of an SBIR/STTR (Small Business Innovation Research or Small Business Technology Transfer) project, an individual may not serve as both the small business PI and the university subcontract PI (or co-PI), nor may the employee contribute to both the small business and university components of a single project as an employee, investigator, or consultant.

Organizational conflicts of interest may occur where the involvement of an employee in a consulting or advisory services contract with a federal agency may bar other university employees from participating in a subsequent contract or grant from that agency. The limitation is based on a perceived institutional advantage derived from that prior involvement. The Office of the Vice President for Research and Innovation, in consultation with the department head, dean, or unit leader as appropriate, is responsible for determining whether the risk of exclusion from bidding on a subsequent contract should result in denial of the employee's involvement in the initial consulting or advisory services contract.

Virginia Tech is committed to the free and open exchange of ideas and the timely dissemination of research results to the

Virginia Tech is committed to the free and open exchange of ideas and the timely dissemination of research results to the broader scholarly community and public. Providing preferential access to an outside entity to research results, materials, or products generated from university teaching, research, or administrative activities for personal financial gain is prohibited. University resources, including facilities, personnel, equipment, email, or other confidential information, may

not be used for employee consulting or other non-university purposes. University letterhead may only be used for university business and not for outside consulting or other personal use. Employees must separate clearly and cleanly the personal financial aspects of their entrepreneurial activities from their university activities. Even though permitted,

entrepreneurial activities should not be confused with assigned duties of the university.

#### 2.2 Potential Conflicts Involving Spouses and Immediate Family Members

As a matter of state law, employees must avoid being in a position of authority over a spouse or a member of the immediate family who is also employed by the university where the spouse or family member earns \$5,000 or more during a fiscal year. An employee and his or her spouse or another member of the immediate family may both be employed by the university so long as the employee does not exercise any control over the employment conditions and activities (such as initial appointment, retention, promotion, tenure, salary, travel approval, leave of absence, or grievance review) of the spouse (or immediate family member) and is not in a position to influence those activities. Proposed exceptions and alternate reporting relationships are reviewed and approved by the senior vice president and provost (or relevant vice president for a non-academic appointment) prior to submission to the board of visitors for approval.

Faculty members have a responsibility to avoid potential conflicts of interest between their professional responsibilities in teaching, research, or administration and their personal interests in relationship to students who are also family members. The concern is assuring an absence of bias in evaluation of coursework and maintaining both the appearance and reality of fairness of treatment among all students in a class or an academic program. When there is no reasonable alternate course or instructor for a required course taught only by the conflicted faculty member, then the relevant academic associate dean and department head work with the faculty member to identify an alternate evaluator for the student-family member's work. It is the prerogative of the conflicted faculty member to agree to the selection of the faculty colleague for this alternate evaluator assignment. Graduate School policies prohibit faculty members from serving as advisor or committee member for family members (spouse or dependent immediate family member), or for individuals with whom they have a close personal relationship such as partner or extended family member, or close professional relationship such as business associate or supervisor.

Consensual relationships between faculty members (including Graduate Teaching Assistants) and students enrolled in their classes, or students for whom they have professional responsibility as advisor or supervisor, violate the policy on Professional Ethics and Responsibilities and may be a violation of Policy 1025, Anti-Discrimination and Harassment Prevention Policy.

#### 2.3 Potential Conflicts Involving Students and Post-Doctoral or Other Trainees

The impact of a perceived or actual conflict of interest or commitment of faculty members on their students (including post-doctoral fellows and other trainees) is of special concern to the university. In particular, the university is committed to maintaining the content and quality of the educational experience for students whose research is sponsored by a forprofit business and whose faculty advisors have a financial interest or a management role in that business. The concern is even greater if the dissertation work could potentially affect the value of a company in which the faculty member has an ownership or managerial interest. It is most important that students make acceptable progress towards their degree goals. Work on a sponsored project funded by a faculty company, or working directly for a faculty-owned enterprise (or consulting), must not inhibit the student's academic advancement.

This policy recognizes that the involvement of students in faculty-owned or managed businesses or consulting may yield substantial benefit to the student, provided that certain conditions are met. Faculty members must disclose the proposed involvement of students in their external activities or in company-sponsored research. Faculty members who intend to serve as PI or co-PI on sponsored projects and have graduate students or trainees conduct a portion of the research under their supervision must develop a conflict of interest management plan to address protections for these early career scholars. Students, trainees, and lab personnel have a right to be fully informed about the source of their funding, the

nature of the faculty member's financial interest or involvement, and, if relevant, any agreements concerning data collection, copyright, or patent protection arising from the research. Documentation of a discussion held with the student by the graduate program director or department head and the relevant associate dean is required to assure that the student has been informed of university and academic policies, the potential risks of the proposed involvement, and the channels available through the department or Graduate School to address perceived problems.

A faculty member with a significant financial interest in a company may not serve as sole advisor of a dissertation or thesis committee for a student who is funded through a university sponsored project supported by the advisor's company, or for a student who is employed directly by the faculty member's company. The faculty member with the conflict may serve as co-chair or committee member. If another co-chair is appointed, that faculty member must be of equal or greater rank, must not be involved with the sponsoring company, and must not be subject to undue influence by the faculty-owner. Any exception to this must be approved by the Vice President for Research and Innovation.

If the student is engaged in longer term or more time-consuming participation in the advisor's consulting practice, or employed only during the summer months by the advisor-owned company, a co-advisor appointment may also be warranted, but is not automatically required.

The Graduate School shall receive a copy of any approved management plan involving a graduate student performing work for an advisor's company or consulting practice, and the signed student agreement acknowledging his or her understanding and voluntary participation. Every effort must be made by departmental and college officials to meet with the student prior to the start of the company-funded assistantship, or as quickly thereafter as possible, to review relevant policies and the terms of the student agreement. Copies of the signed student agreement should be distributed to all members of the student's graduate committee by the department head or graduate program director to encourage their active engagement in protecting the student and assuring the integrity of the research. A copy of the signed student agreement should also be sent to the university conflict of interest officer.

Careful monitoring of the approved management strategies and annual reports of academic progress for the student is the responsibility of the department head and graduate program director, with oversight by the relevant academic dean(s).

Full-time graduate assistants must notify the Graduate School about any additional employment agreement, including the period of employment, name and contact information for the employer, and job title or short description of duties. The Graduate School will review such proposed employment for potential conflicts of interest. International students are prohibited from taking on additional work beyond their assistantship by virtue of their student visa requirements.

#### 2.4 Potential Conflicts Involving Other University Employees

The involvement of other faculty or staff members in employee-owned businesses or faculty consulting also requires caution and careful consideration. Any such employment must be outside the scope, and schedule, of their regular university duties and must be approved by the department head and other administrators as required by this policy and Policy 4070, Additional/Outside Employment for Classified or University Staff; or Section 2 of the Faculty Handbook entitled, Outside Employment and External Activities Other than Consulting. The concerns may be a potential conflict of interest if the employee supervises and evaluates another staff or a less senior faculty member creating an opportunity for bias (favorable or unfavorable) toward the individual based on their involvement in the employee's (or supervisor's) personal company or consulting. There is also a potential conflict of commitment, where the employee's effectiveness in his or her primary role at VT may be compromised by the outside

employment. For all employees, the supervisor or department head, as appropriate, will determine if the additional employment may adversely affect the employee's performance in the university salaried position and therefore should not be approved. If a request is granted and job performance subsequently deteriorates, the department head may rescind permission for the outside/additional employment. The involvement of faculty members in an employee-owned business or consulting is documented and approved as part of the disclosure by the employee-owner and by the faculty member's own request for involvement in external activities.

(Policy section 2.3 covers potential conflicts involving students, post-doctoral or other trainees)

#### 2.5 Faculty Authored Instructional Materials

A faculty member teaching a course may not receive a royalty and/or other fees beyond direct cost of production and sales for any material used as part of class activity, except for material that has received an independent external review, that has been copyrighted, and a portion of the copyright is owned by a publisher other than the author. Faculty accused of abusing the distribution of classroom material for personal financial gain are subject to review by the Committee on

Faculty Ethics.

#### 2.6 Procurement-Related Conflicts and Gifts to Employees

The purchase of goods or services by the university from an entity owned by an employee of the university, or by a member of the employee's immediate family, is a prohibited conflict of interest under state law when the value of the purchase or contract is equal to or greater than \$500. The conflict exists even if the purchase is being made by a department/unit other than the employee's home department. A business owned by an employee's spouse or immediate family member may be barred from doing business when the value of the purchase is equal to or greater than \$500.

The university seeks to maintain the highest level of public trust in its procurement processes, which includes avoiding perceptions of conflicts of interest that might be generated by contracting with firms where employees were previously employed or with whom they have a close personal relationship when the employee is in a position to influence a purchasing or contracting decision. Decision makers with potential conflicts should recuse themselves from participation in the evaluation, selection and negotiation process.

The university's Business Conduct Standards

(http://www.cafm.vt.edu/busprac/_docs/2006Statement_Business_Conduct_Standards_revised.pdf) apply to all employees. It prohibits the acceptance of gifts and gratuities or promises of future employment from contractors or individuals seeking to do business with the university. Meals and travel offered by vendors are included in this prohibition. Gifts and giveaways offered to the general public (such as pens, calendars, note pads, other giveaways, or reception food provided by vendors at a public event such as a conference) may be accepted as long as the value of such items meet the standard de-minimus rules followed by the University <a href="http://www.co.vt.edu/Procedures/p23810.html">http://www.co.vt.edu/Procedures/p23810.html</a>

More information and examples of potential conflicts related to procurement and gifts can be found on the Purchasing website: <a href="http://www.procurement.vt.edu/Department/Ethics.html">http://www.procurement.vt.edu/Department/Ethics.html</a>

#### 2.7 Disclosure Requirement

State and federal law require that employees fully disclose personal interests that present a potential conflict of interest with one's university responsibilities. Involvement with external activities, such as consulting or outside employment, or financial relationships with external entities related to one's professional responsibilities must be approved in advance. All employees (or their immediate family members) who have a private company (or ownership interest meeting or exceeding state limitations) that wishes to do business with Virginia Tech must disclose this financial interest annually. All investigators (or their immediate family members) who own or have ownership interest in a private business that would reasonably appear to be related to their institutional responsibilities must disclose that financial interest and have it evaluated for potential conflicts of interest or commitment, whether or not that company intends to do business with Virginia Tech. A university disclosure form must be filed annually for those approved activities that extend beyond one year. When a conflict of interest management plan is required by the circumstances, full and immediate compliance is essential to assure the integrity of university-sponsored research, teaching, outreach, and administrative activities. University officials, not the employee, ultimately determine whether a reported financial interest constitutes a conflict and whether an award can be accepted or must be declined given the possible unresolved issues.

Virginia Tech will follow regulations contained in the Code of Federal Regulations (cited in the Reference section) and Commonwealth of Virginia state law to respond to a written request for information concerning disclosed financial conflicts of interest related to research projects funded by the Public Health Service.

#### 2.8 Training Requirement for Sponsored Activities

The complexity and importance of managing potential conflicts of interest warrant the full attention of members of the university community. Initial and periodic training concerning applicable university policies and state and federal law and the investigator's responsibilities for disclosure is required for all faculty, staff and students engaged in sponsored activities. Federal regulations require all Public Health Service funded investigators to complete training prior to the award of a grant or contract. Initial training for non-PHS funded investigators must be completed in conformance with procedures issued by the Office of the Vice President for Research and Innovation.

Retraining related to conflict of interest for those engaged in sponsored activities is required every four years and/or whenever there is significant change in university policy related to investigator responsibilities. Any investigator found to be in non-compliance with disclosure requirements will also be required to complete immediate training.

This policy must be read in conjunction with related university policies and procedures, such as intellectual property, use of facilities and university resources, procurement, Policy 4070 and the Faculty Handbook sections on consulting, outside employment, and conflict of interest and conflict of commitment. Policy guidance is provided on the Conflict of Interest (COI) website maintained by the Office of the Vice President for Research and Innovation and the Standards of Conduct and Ethics website maintained by the university Procurement Department.

#### 3. Procedures

#### 3.1 Disclosure of External Activities

University policy requires reporting of a wide variety of external activities, whether they generate additional income for the employee, or an immediate family member, or not. Certain traditional scholarly-related activities do not require reporting, such as serving on a peer-review panel, guest lecturing at another institution, serving as a speaker or panelist at a professional society meeting or conference, or editing a scholarly journal, even when the employee receives an honorarium for such service. A list of common activities that do not need to be reported is available on the COI website.

Advance approval is required for faculty engaged in consulting or outside employment. Use form 13010 for disclosure and approval of such activities on an annual basis each fall, or as needed for new activities. Include sufficient information for department and college officials to review and evaluate the proposed activities for conflict of interest or commitment. A single form may be submitted for on-going consulting activity with a single entity during the fiscal year. Continuation of that same consulting activity beyond the current fiscal year must be reported and approved annually. Separate disclosures are required for each consulting client so that potential conflicts of interest or commitment can be properly evaluated. A single disclosure denoting ownership of a consulting company with multiple unidentified clients does not allow an adequate assessment and is considered insufficient and unacceptable. Proposed external activities must be reported sufficiently in advance to allow a meaningful evaluation and approval process, including development of a management plan in the case of a conflict of interest or other legal issues posed by the proposed activity.

External activities with no anticipated impact on related sponsored research, other sponsored activities, or employment or funding of students or trainees, and within stated limitations of university policies on consulting and/or outside employment may be approved by the department head and relevant dean or senior administrator. Exceptions to the time limitations on consulting and outside or additional VT employment for faculty require approval by the provost, or the relevant vice president. The original approved form is kept in the employee's departmental personnel file. University departments and the relevant dean of vice president's office are responsible for ensuring that copies are sent to the employee and the university conflict of interest officer. Copies of individual disclosures are also retained by the relevant dean or vice president's office.

Staff members may request approval for outside employment and/or additional employment at Virginia Tech in accordance with Policy 4070 using the form *Request for Additional/Outside Employment for Classified or University Staff*.

#### 3.2 Disclosure of Potential Conflicts of Interest

Form 13010 is also used to disclose annually external activities, or relationships with external entities, that may involve a potential conflict of interest. Examples of activities that generally require disclosure are available on the COI website, such as employee (or immediate family) ownership of a private business seeking to sponsor research at Virginia Tech, or utilizing students, trainees, or other university employees in the employee's private business or consulting. A newly acquired significant financial interest, such as might occur through marriage, inheritance, or establishment of a new company, must be disclosed within 30 days. Disclosures must be made prior to submission of a related proposal for sponsored research or other sponsored activities.

It is essential that the employee describe in detail the totality of the relationship with the external entity, including but not limited to the extent of individual or family financial interest, any involvement of students or other employees, and any project-specific considerations. Disclosures will be reviewed initially by the department head or the designated administrator for employees in non-academic units. Guidance on how to assess reported activities or relationships for potential conflicts of interest is available on the COI website. A management plan must be developed prior to any related research or sponsored involvement with the entity.

Once approved by the department or unit head, the form is routed for review and approval by the relevant dean or vice president's office. Additional review and approval by the university Conflict of Interest Officer is required for disclosures involving business ownership interests of investigators (or their family members), significant financial interests related to sponsored research, or other sponsored activities, employment or funding of students/trainees/staff, and any proposed management plan.

A fully approved disclosure and management plan and presidential approval, if relevant, must be in place prior to execution of a related sponsored award. An investigator's significant financial interest related to a sponsored project and key elements of the management plan are reported by the university conflict of interest officer to the sponsor in accordance with sponsor requirements, when appropriate.

Should a significant financial interest be identified subsequent to project initiation, the COI officer will promptly review (within 60 days) the financial interest and its relationship to the project and implement an interim management plan to mitigate the potential conflict, including, if deemed necessary, suspending further project expenditures pending a more complete review and determination of appropriate action.

### 3.2.1 Special Requirements for PHS Funded Projects

If a determination is made that a financial conflict of interest (FCOI) exists, the COI Officer will report the FCOI to the sponsor within the 60 days period along with information from the interim management plan . Additionally, an identified FCOI will trigger a retrospective review of the research itself to be completed and documented within 120 days of the university's determination of noncompliance. The COI Officer will enlist an independent individual(s) to assist in making an assessment of the research activities to ensure the absence of bias and the integrity of research performance to date. Based on the outcome of the retrospective review, the COI Officer will update or revise the FCOI Report to the sponsor and develop a management plan to use going forward for the remainder of the project. Annual reports, if required, will be submitted to be sponsor for the remainder of the project.

If bias in the research is found, the sponsor will be notified promptly and the research project suspended until the university and the sponsor can determine the appropriate action to take. If appropriate, the university's Research Integrity Officer will be notified and requested to participate.

### 3.2.2 Special Requirements Related to Travel Disclosures for PHS Funded Investigators

For faculty members with PHS funding, reimbursed or sponsored travel paid for by an external entity must also be disclosed if it exceeds an aggregated amount of \$5,000 annually. Disclosure includes at a minimum the purpose of the trip, identity of the sponsor/organizer, the destination, and duration. Disclosure is not required for travel reimbursed by the university from any source of university funds (e.g. departmental, foundation, sponsored project), or travel paid for (or reimbursed) by a federal, state, or local government agency, a US institution of higher education, an affiliated research institute, or an academic teaching hospital.

### 3.3 Commonwealth of Virginia Disclosure and Training Requirement

The Commonwealth of Virginia requires separate, additional reporting of economic interests by members of the boards of visitors, senior administrators, select others with financial decision making authority, and employee business owners whose companies seek to contract with the university for research and development or commercialization of intellectual

property. The *Statement of Economic Interest disclosure* is to be completed twice a year in December and January or, as needed in the case of a new research contract.

Individual employees will be notified by the Virginia Tech Office of Human Resources of any state disclosure requirements and receive instructions on how to access the state maintained online system for reporting. These individuals are also required to complete state COI training on a two-year cycle. The associated training as required by state law, is maintained and tracked by the Virginia Tech Office of Human Resources

### 3.4 Management of Potential Conflicts

A management plan is used to document the proposed strategies for eliminating, mitigating, or managing a potential conflict of interest. Approved strategies must reflect the commitment of the employee to university principles and values of transparency; strict adherence to the highest standards of professional ethics and conduct of research; appropriate and timely dissemination of research results; and protection of students, employees, and human subjects involved in the research. The management plan can call for implementation of several strategies designed to protect these values and the integrity of the research, research sponsors, the employee, and the university. Examples of frequently adopted strategies and sample management plans are available on the COI website. Management plans are typically project specific, reflecting the conditions of the proposed sponsored activity. Management plans must fully describe the situation giving rise to the potential conflict, the proposed strategy to eliminate, mitigate, or manage the potential conflict, and the process by which the activities and the management plan will be monitored. Appropriate monitoring should include an oversight function to evaluate the effectiveness of and ensure compliance with the strategies specified in the management plan. Disclosure of an investigator's significant financial interest must be made directly to the human subjects involved in all research activities.

A faculty-owner may not serve as sole principal investigator on a university project that is funded wholly, or partially, by the external organization with which the faculty-owner is associated. The co-principal investigator must be a faculty member who is not in a subordinate position to the faculty-owner, nor associated with the faculty-owner's company, or in any way susceptible to potentially inappropriate influence by the faculty-owner. Any exception to this must be approved by the Vice President for Research and Innovation. The faculty-owner may not have financial responsibility for the contract. Oversight arrangements must be carefully crafted for those cases where the faculty-owner remains involved in the sponsored research. Employees consulting with an external entity which then sponsors research at the university involving that faculty member also presents a potentially serious conflict of interest which must be eliminated or carefully mitigated.

All management plans are reviewed and approved by the university Conflict of Interest Officer to assure consistency and compliance with applicable sponsor regulations and university policy.

Awards will be contingent upon acceptance and implementation of the plan by the employee. While the employee bears primary responsibility for carrying out the plan, department heads and deans are expected to monitor compliance and assure that protections are provided for other employees and students. A review of active management plans will be performed periodically throughout the performance period of the sponsored project. Employees, department heads or others involved in the execution of a specific management plan will be contacted and requested to provide information as to oversight activities performed. They will also be requested to provide any updates or revisions that may have been made during the review period. Once the management plan review has been completed and approved, any required sponsor reporting will be filed.

### 3.5 Participation of and Payment to Students

The participation of students in projects involving faculty-owners should be given particularly careful consideration. Work for faculty-owned companies or in faculty consulting provides valuable experience for undergraduate and graduate students. Nevertheless, such opportunities come with some risk that the student may be diverted from his or her educational goals or the perception that students are being used primarily for the benefit of those companies. For example, a faculty member who pressures a student to complete work related to the faculty member's company could easily affect the student's completion of graduate studies in a timely and appropriate way, thereby putting the faculty member's

interest in obtaining proprietary results ahead of the student's academic or scholarly research activities. The concern is similar for the involvement of students in faculty consulting or other external activities. The risks and benefits of such involvement must be carefully weighed by departmental administrators responsible for evaluating the disclosure and approving the request, particularly where the involvement may be longer term and/or more time consuming. See section 2.3 for further discussion of issues related to student involvement in faculty members' external activities or outside businesses.

Where approved, students may be paid for involvement in faculty-owner activities in either of two ways:

- 1. Remuneration may be in the form of an assistantship and tuition, or wages funded by a sponsored project contracted to the university from the business or organization with which the faculty-owner is associated. The assistantship or wages are remuneration for work only within the agreed scope of that funded project and for no other tasks undertaken for the benefit of the external organization. This is no different from any other sponsored project that involves graduate research assistants or wage-earning students. In these circumstances, assistantships are constrained to payments within the scales published by the university.
- 2. Alternatively, the company or agency might engage students directly as employees. This is the situation experienced by most off-campus and part-time graduate students. However, it is envisaged that in the case of faculty-owned businesses, students will spend time in university facilities when not engaged in direct work for the company at the company site or in an off-campus location. [Students may not do work on behalf of the company in university facilities.] Remuneration is not limited to university scales when students are employed directly by the company and may include the cost of tuition.

Students who will be employed by either of the two methods of payment and have their research supervised by the faculty-owner must sign an agreement acknowledging that they have been informed by their graduate program director or department head and associate dean about the source of their funding, the potential concerns associated with conflict of interest, and their channels for redress if needed.

Any work done on behalf of the faculty-owner's company in university facilities must be done in accordance with sponsored program guidelines and/or Policy 5000, University Facilities Usage and Event Approval.

### 4. Compliance

Virginia Tech expects its employees to comply fully and promptly with the policy. The Office of the Vice President for Research and Innovation is responsible for overseeing the implementation of the policy and associated procedures. The university conflict of interest officer will work cooperatively with investigators and others to resolve any minor issues of noncompliance.

Breaches of the disclosure process, including (a) failures to comply with such process, whether by virtue of an employee's refusal to respond or by his or her responding with incomplete or knowingly inaccurate information, (b) failures to remedy conflicts, and (c) failures to comply with a prescribed management plan, will be forwarded to the appropriate university unit for investigation and appropriate action. Concerns about potential bias in the research will be reviewed in accordance with procedures established by the Office of the Vice President for Research and Innovation and posted on the COI website. (See policy section 3.2 above).

Instances of deliberate breach of policy - including failure to file a required disclosure form, knowingly filing an incomplete, erroneous, or misleading disclosure form, or failure to comply with prescribed monitoring procedures - will be adjudicated in accordance with applicable disciplinary policies and procedures of the university as described in the Faculty and Staff Handbooks. University procedures for imposition of a severe sanction or dismissal for cause described in section 3.6 of the Faculty Handbook provide appeal mechanisms for faculty members charged with serious breaches of university policies. Staff employees may appeal through the staff grievance process.

### 5. Record Retention

All original signed disclosure forms and management plans related to conflicts of interest and commitment will be retained in the employee's departmental personnel file in accordance with university record retention guidelines. Copies of disclosure forms and management plans will be maintained by the university Conflict of Interest Officer in accordance

with state, federal, and sponsor requirements.

### 6. Definitions

- 1. "Business" means any corporation, partnership, sole proprietorship, firm, franchise, association, trust or foundation, or any other individual or entity carrying on a business or profession, whether or not for profit. The definition excludes the university or any other entity controlled by, controlling, or under common control with the university.
- 2. "Disclosure" is the full recording or specification of the employee's relationship with an external organization or involvement in external activities.
- 3. 3. "Employee" includes all types of Virginia Tech faculty, staff, or employed students, whether full- or part-time.
- 4. "Faculty member" is anyone who has faculty status at Virginia Tech, regardless of rank and including research faculty and administrative and professional faculty. The complete categories of faculty are defined in Section 2.1 of the Faculty Handbook. This policy also applies to staff employees and employed students where relevant.
- 5. Family Member" or "Immediate Family Member" means an employee's spouse or child who resides in the same household and who is a dependent of the employee. A potential conflict of interest may arise when the party holding the "Financial Interest" as defined in (8) below is related to the employee in ways other than spouse and dependent children. Financial interests held by this party should be disclosed by the employee to the best of his or her knowledge.
- 6. "Institutional responsibilities" are defined broadly and include but are not limited to teaching, advising, research and scholarly activities, outreach, administrative and institutional committee service, and service to professional associations or on panels such as peer, institutional, or accreditation review boards.
- 7. "Investigator" means the project director or principal investigator and any other person, regardless of title or position, who is responsible for the design, conduct, or reporting of research. Collaborators, consultants, or subcontractors on PHS funded projects are considered investigators for the purposes of this policy, as is anyone identified as key personnel in sponsored proposals and awards. Investigator disclosures must include the financial interests of their spouse and dependents.
- 8. An "Organizational Conflict of Interest" exists when multiple university relationships with sponsors create an actual or perceived conflict of interest. Virginia Tech is treated as a single contractual entity in the federal contracting context. Separate sponsored projects and their principal investigators are considered part of the overall Virginia Tech contracting entity. Hence, the involvement of one faculty member in a consulting or advisory services contract with the agency may preclude a subsequent related contract from that agency based on potential concerns that there may have been access to source selection criteria or confidential information not in the public domain in advance of an RFP or procurement, or that the organization might be evaluating its own work products and hence open to charges of biased judgment, or that the preparation of specifications or statements of work might have favored the institution. Organizational conflict of interest applies to more than one project and may affect all current or even future sponsored research with a particular federal sponsor.
- 9. The Public Health Service comprises all Agency Divisions of the Department of Health and Human Services and the Commissioned Corps. Agencies and Operating Divisions include:
  - Office of the Assistant Secretary for Preparedness and Response (ASPR)
  - Office of Global Affairs (OGA)
  - Agency for Healthcare Research and Quality (AHRQ)
  - Agency for Toxic Substances and Disease Registry (ATSDR)
  - Centers for Disease Control and Prevention (CDC)
  - Food and Drug Administration (FDA)
  - Health Resources and Services Administration (HRSA)
  - Indian Health Service (IHS)

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Policy 13010
August 31, 2015

- National Institutes of Health (NIH)
- Substance Abuse and Mental Health Services Administration (SAMHSA)
- 10. "Significant financial interest" is defined differently by state law and federal regulation. The Virginia State and Local Government Conflict of Interests Act uses the term "Personal Interest" and the defined thresholds for disclosure apply to all employees not just those engaged in sponsored research. The definition for "significant financial interest" below applies to all investigators involved in sponsored research or other sponsored activities, regardless of the source of funds
- a. "Personal Interest" as defined by the Virginia State and Local Governments Conflict of Interests Act: A financial benefit or liability accruing to an officer or employee or to a member of his immediate family. Such interest shall exist by reason of (i) ownership in a business if the ownership interest exceeds three percent of the total equity of the business; (ii) annual income that exceeds, or may reasonably be anticipated to exceed, \$5,000 from ownership in real or personal property or a business; (iii) salary, other compensation, fringe benefits, or benefits from the use of property, or any combination thereof, paid or provided by a business or governmental agency that exceeds, or may reasonably be anticipated to exceed, \$10,000 annually; (iv) ownership of real or personal property if the interest exceeds \$5,000 in value and excluding ownership in a business, income, or salary, other compensation, fringe benefits or benefits from the use of property; (v) personal liability incurred or assumed on behalf of a business if the liability exceeds three percent of the asset value of the business; or (vi) an option for ownership of a business or real or personal property if the ownership interest will consist of (i) or (iv) above.
- b. "Significant Financial Interest": A financial interest consisting of one or more of the following interests of the investigator (and those of the investigator's spouse and dependent children) that reasonably appears to be related to the investigator's institutional responsibilities:
- 1. With regard to any publicly traded entity, a significant financial interest exists if the value of any remuneration received from the entity in the twelve months preceding the disclosure and the value of the equity interest in the entity as of the date of disclosure, when aggregated, exceeds \$5,000. For purposes of this definition, remuneration includes salary and any payment for services not otherwise identified as salary (e.g., consulting fees, honoraria, paid authorship); equity interest includes any stock, stock option, or other ownership interest, as determined through reference to public prices or other reasonable measures of fair market value.
- 2. With regard to any non-publicly traded entity, a significant financial interest exists if the value of any remuneration received from the entity in the twelve months preceding the disclosure, when aggregated, exceeds \$5,000, or when the investigator (or the investigator's spouse or dependent children) holds *any* equity interest (e.g., stock, stock option, or other ownership interest); or
- 3. Intellectual property rights and interest (e.g. patents, copyrights), upon receipt of income related to such rights and interest.

PHS funded investigators must also disclose the occurrence of any reimbursed or sponsored travel if it exceeds an aggregated amount of \$5,000 annually and is related to their institutional responsibilities. Sponsored travel is defined as that which is paid on behalf of the investigator and not reimbursed to the investigator so that the exact monetary value may not be readily available. However, this disclosure requirement does not apply to travel that is reimbursed or sponsored by a federal, state, or local government agency, a US institution of higher education, an academic teaching hospital, a medical center, or a research institute affiliated with an institution of higher education.

The term significant financial interest does not include the following types of financial interests:

• salary, royalties, or remuneration paid by Virginia Tech to the investigator, including intellectual property rights assigned to the institution and agreements to share in royalties related to such rights;

- income from investment vehicles, such as mutual funds and retirement accounts, as long as the investigator does not directly control the investment decisions made in these vehicles;
- income from seminars, lectures, or teaching engagements sponsored by a federal, state, or local government agency, and a US institutions of higher education; or
- income from service on advisory committees or review panels for a federal, state, or local government agency, a
  US institution of higher education, an academic teaching hospital, a medical center, or a research institute that is
  affiliated with US institution of higher education.

11. "University Disclosure Form" for classified or university staff is Form 4070, Additional/Outside Employment for Classified or University Staff. All other university employees should use Form 13010, Request to Engage in External Activity and Disclosure of Conflict of Interest/Commitment.

### 7. References

Code of Federal Regulations, 42 CFR chapter 1, subchapter D, part 50, and 45 CFR subtitle A, subchapter A, part 94 Commonwealth of Virginia, Conflict of Interest Website

Faculty Handbook, Chapter 2, Consulting and Outside Employment

Faculty Handbook, Chapter 2, Conflict of Commitment

Faculty Handbook, Chapters 3 and 4, Imposition of a Severe Sanction or Dismissal for Cause

Graduate Catalog, Policy on Additional Employment for Students Holding a Graduate Assistantship Employment

Policy 1025, Anti-Discrimination and Harassment Prevention Policy

Policy 4070, Additional/Outside Employment Policy

Policy 5000, University Facilities Usage and Event Approval

Policy 13000, Intellectual Property

Standards of Conduct and Ethics, Virginia Tech Purchasing Department

Statement of Business Conduct Standards, Virginia Tech

Vice President for Research and Innovation, Conflict of Interest website

Virginia Statement of Economic Interests

Virginia State and Local Government Conflict of Interests Act, 2.2-3100 et seq.

### 8. Approval and Revisions

Recommended by the Commission on Research. Approved by University Council: January 20, 1992 Approved by the President: January 20, 1992

• Revision 1

Change in Sections 2 and 3 to reflect changes in the Code of Virginia and to bring the university into compliance with current law.

Approved by the Board of Visitors, November 9, 1998

• Revision 2

Complete revision of policy in all aspects to reflect broader range of external activities, new reporting and approval mechanisms, and other changes.

Recommended by the Commission on Research: April 26, 2000 Approved by University Council: May 1, 2000 Approved by the President: May 1, 2000 Approved by the Board of Visitors: June 5, 2000

Revision 3

April 23, 2002: References to Code of Virginia section numbers updated; position titles updated.

Revision 4

May 13, 2008: Updates to position titles and/or responsibilities due to university reorganization. Delegation of Authorities and Responsibilities approved by the Board of Visitors, March 31, 2008.

- Revision 5
- Recommendations for complete revision made by the Taskforce on Consulting and Conflicts of Interest and Commitment charged by the senior vice president and provost. Substantive changes intended to improve understanding of the policy and thereby encourage faculty compliance; to update the policy in light of changing federal regulation and expectations of research sponsors; to increase protection of students; and to adopt best practices related to conflicts of interest as recommended by federal agencies, professional societies, and other major research institutions. Eliminated references to Categories I, II, and II for assessing external activities. An extensive set of examples of activities that do, and do not, need to be reported are now available on comprehensive COI website
- Eliminated section on Committee on Conflicts of Interest and Commitment and revised section on appeals
- Added requirements of newly promulgated federal regulations including adoption of \$5,000 threshold for disclosure
  of financial interests; mandatory training; prompt response to FOIA request concerning possible investigator conflict
  of interest related to an NIH research project; retrospective review for relevant cases of non-compliance; and annual
  reports for management plans.
- Added sections on potential conflicts involving students and postdoctoral fellows/trainees, other employees, and spouses and immediate family members.
- Added reference to organizational conflict of interest, and sections on Statement of Economic Interest, Faculty Authored Instructional Materials, and Procurement-Related Conflicts.
- Clarified procedures for disclosures and for development of management plans once a potential conflict has been identified.
- Changed oversight of conflict of interest reporting from the senior vice president and provost to the vice president for research.
- Revised policy title from "Faculty Conflicts of Interest and Commitment" to "Individual Conflicts of Interest and Commitment."

Approved by the Commission on Research: February 8, 2012

Approved by University Council: March 19, 2012 Approved by the President: March 19, 2012 Approved by the Board of Visitors: June 4, 2012

Policy effective date: August 10, 2012

- Revision 6
- Revisions include edits for clarity, updates related to changes in state law, new language regarding administrative routing of documents, and additional guidance for investigators of federal Public Health Service Grants.
- Section 3.2 addresses federal Public Health Services requirements for retrospective reviews and reporting in cases of non-compliance.

### Minutes

### STUDENT AFFAIRS AND ATHLETICS COMMITTEE

### Virginia Tech Research Center Arlington, VA

### August 31, 2015

### Joint Closed Session with Student Affairs and Athletics Committee:

### **Board Members Present:**

Nancy Dye
William Fairchild
Michael Quillen
Deborah Petrine, Rector
Wayne Robinson, Committee Chair
Mehul Sanghani
Steve Sturgis
Morgan Sykes, Undergraduate Student Representative

### Guests:

Whit Babcock, Bob Broyden, Eleanor Finger, Randy Fullhart, Mark Gess, Hunter Gresham, Kay Heidbreder, Angela Kates, Chris Kiwus, Patricia Perillo, Ken Smith, and Sherwood Wilson

- 1. Motion for Closed Meeting
- **2. Briefing by Legal Counsel:** The Committee received a briefing by Legal Counsel on probable litigation.
- 3. Motion to Reconvene in Open Session

### **Open Session:**

### **Board Members Present:**

Wayne Robinson, Committee Chair Nancy Dye Mehul Sanghani Morgan Sykes, Undergraduate Student Representative

### **Guests:**

Whit Babcock, Matt Chan, D'Elia Chandler, Chris Flynn, Hunter Gresham, Natalie Hart, Kay Heidbreder, Kevin Jones, Carly Northup, Kim O'Rourke, Patty Perillo, and Tim Sands

The meeting was called to order at 9:15 a.m.

### **Open Session**

1. Introductions, Opening Remarks and Approval of June 1, 2015 Minutes. Wayne Robinson, committee chair, allowed for introductions, provided opening remarks, welcomed new members, and submitted the minutes of the June 1, 2015 meeting to the committee for review and acceptance.

A motion was made and passed unanimously to approve the minutes as written.

2. Updates from the Division of Student Affairs: Dr. Patty Perillo, vice president for student affairs, provided a quarterly update on the division of student affairs. Dr. Perillo shared that more than 50 new professional staff have been hired in the division, filling both new and vacant positions, over the past nine months serving in roles from coordinator to assistant vice president. Being appropriately staffed is vital given the over-enrollments. Move-in was successful, but housing impacts are significant. Additionally, dining lines are long, as was anticipated, but action is being taken to improve the situation as possible. With 19,000 dining plans and transactions up more than 11% compared to this time last year, Virginia Tech's nationally-ranked dining program is stretched, but responsive and delivering. Long-term planning and enrollment management discussion are underway and ongoing about an interim plan to address enrollment growth, as well as a new northwest precinct community.

The university's collaboration with Gallup yielded the release of the Gallup-Perdue Index Report for Virginia Tech alumni this week, showing that alumni attachment at Virginia Tech is strong and surpassing that of our national peers. Student data results focused on well-being will be forthcoming.

The division is implementing a new curriculum, the Keystone Experience, which operationalizes the Aspirations for Student Learning and allows students to define and make meaning of their Virginia Tech experience. Part of the Keystone Experience launch included the employment of two student interns to complete a summer overhaul of GobblerConnect, the online resource for a variety of engagement opportunities.

Dr. Perillo also reviewed the status of the division's work toward defined InclusiveVT initiatives, noted the desired growth of students in our living learning communities, and noted that the university was again named "Fittest College in America" by The Active Times. Dr. Perillo closed by sharing that the university opened an on-campus center for Veterans last week, The VetZone, in Squires Student Center, and a Veteran's Caucus was formed comprised of students, faculty, and staff.

3. Intercollegiate Athletics Report: Mr. Whit Babcock, director of Athletics, along with colleagues Ms. Carly Northup, assistant athletic director for external engagement, and Mr. Kevin Jones, assistant athletic director for special projects and design, covered a "Year 2 Top 10" strategic initiatives as the focus of his quarterly report. Mr. Babcock discussed his desire for continued momentum both within the department and the

university. He noted ongoing navigation of the new NCAA compliance and governance landscape, in particular the "Power 5 Autonomy" structure and cost-of-attendance.

A variety of renovation pictures and graphics were shared that will benefit Virginia Tech's recruitment efforts. Mr. Babcock then invited Ms. Northup and Mr. Jones to share how the department hopes to ensure a first-class student-athlete experience, both while here through programs like the student-athlete academic support services and their Pylons of Promise initiative. And, once graduated, through a rebranding of the Monogram Club. Revenue generation through tickets, premium seating, and fundraising initiatives through the Hokie Club were also highlighted.

Mr. Babcock reviewed desired facility updates and improvements as part of the department's future vision and master planning. He went on to discuss the importance of winning, maintaining a focus on becoming the preeminent program in the ACC in all facets. Mr. Babcock closed his portion of the session stating the athletic department's commitment to hiring high performers and creating a culture of excellence, as well as his standard review of C.A.P.S. (compliance, academics, performance, and support).

4. *Resolution to Implement Senate Bill 1122: Dr. Chris Flynn, licensed clinical psychologist and director of the Cook Counseling Center, presented a proposed resolution in response to Senate Bill 1122 passed during the 2015 General Assembly session. Senate Bill 1122 specifically requires the university to advise students, faculty, and staff, including residence hall staff, of the proper procedures for identifying and addressing the needs of students exhibiting suicidal tendencies or behavior, including training and awareness about where to refer students in crisis. The resolution denotes that students demonstrating suicidal tendencies or behavior be referred to the Cook Counseling Center, under the auspices and responsibility of the Division of Student Affairs, and that the Division of Student Affairs be delegated the responsibility of enacting the proposed referral awareness implementation plan.

The resolution to implement Senate Bill 1122 was unanimously approved by the committee.

**Adjournment.** With no further business, the meeting was adjourned at 10:53 a.m.



# Intercollegiate Athletics report to the Student Affairs & Athletics Committee of the Board of Visitors

August 31, 2015

## AGENDA



# Year 2 initiatives, where we are headed, where we want to go, what we are focused on:

- 1. Continued Momentum
- 2. Navigating the new NCAA Compliance &
- Governance Landscape
- 3. Recruiting
- 4. Ensuring a First-Class Student-Athlete Experience
- 5. Revenue Generation

- 6. Facilities and Events
- 7. Winning
- 8. Strategic Communications
- 9. Strategic Fiscal Responsibility
- 10. Our People, Our Culture
- 11. Bonus: C.A.P.S. Always!



1. Continued Momentum...

of our department and University; build upon it



- 2. Navigating the New NCAA Compliance & Governance Landscape...
  - "Power 5 Autonomy"
  - Cost-of-Attendance
  - O'Bannon case ruling, and more



### 3. Recruiting

- → Renovations/Graphics
- Resources/Budget
- Evaluation, support, and best practices

















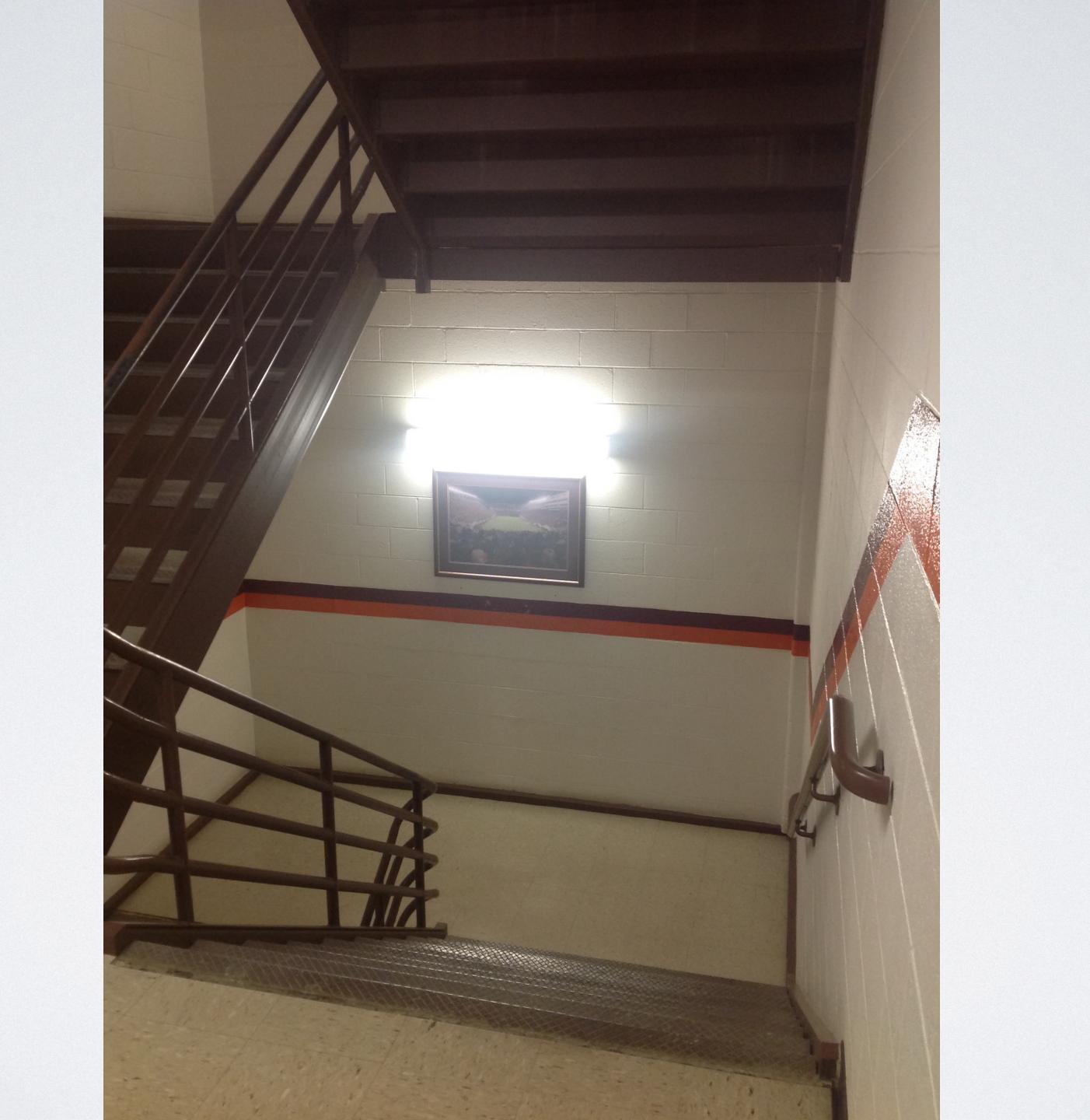












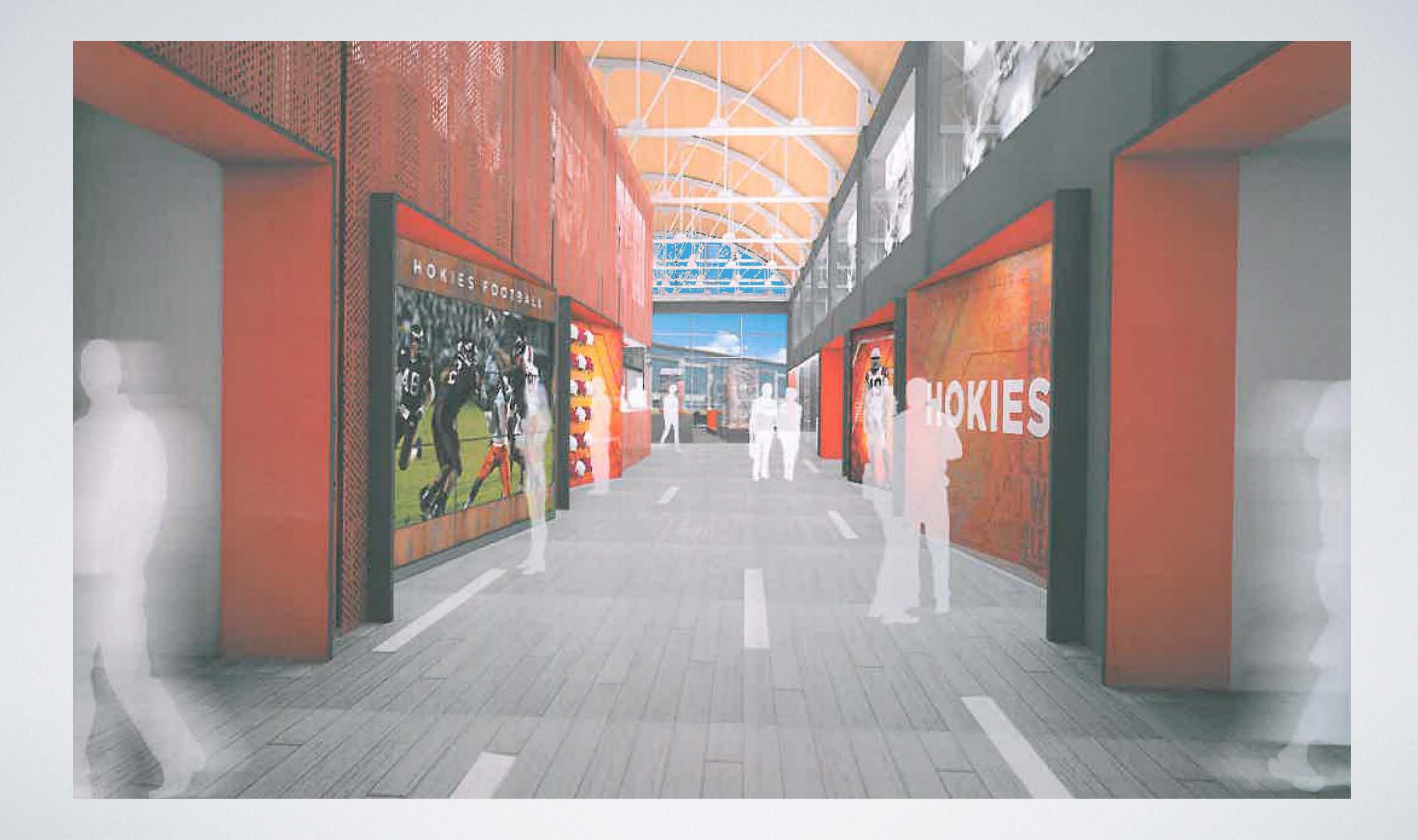


















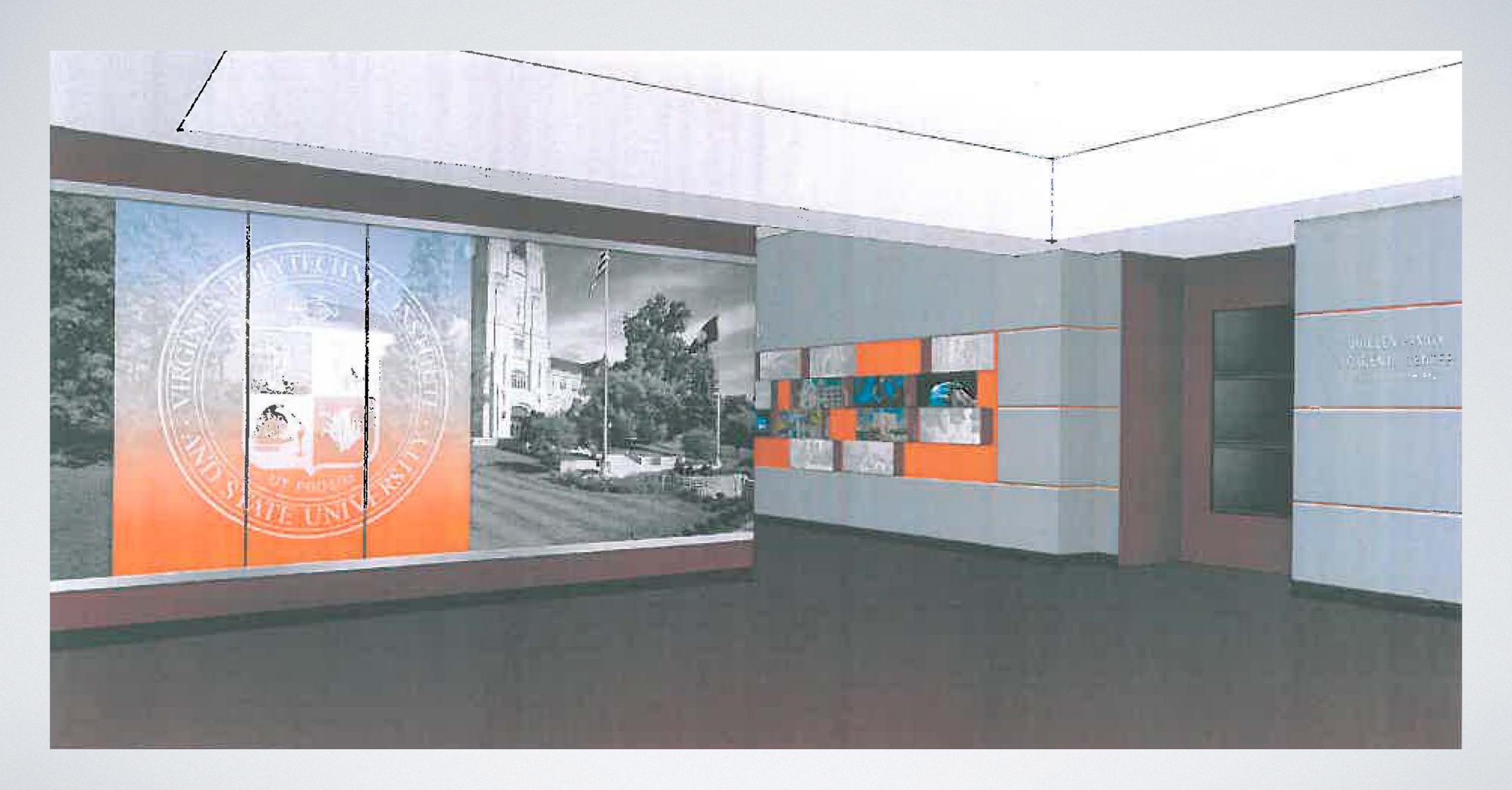




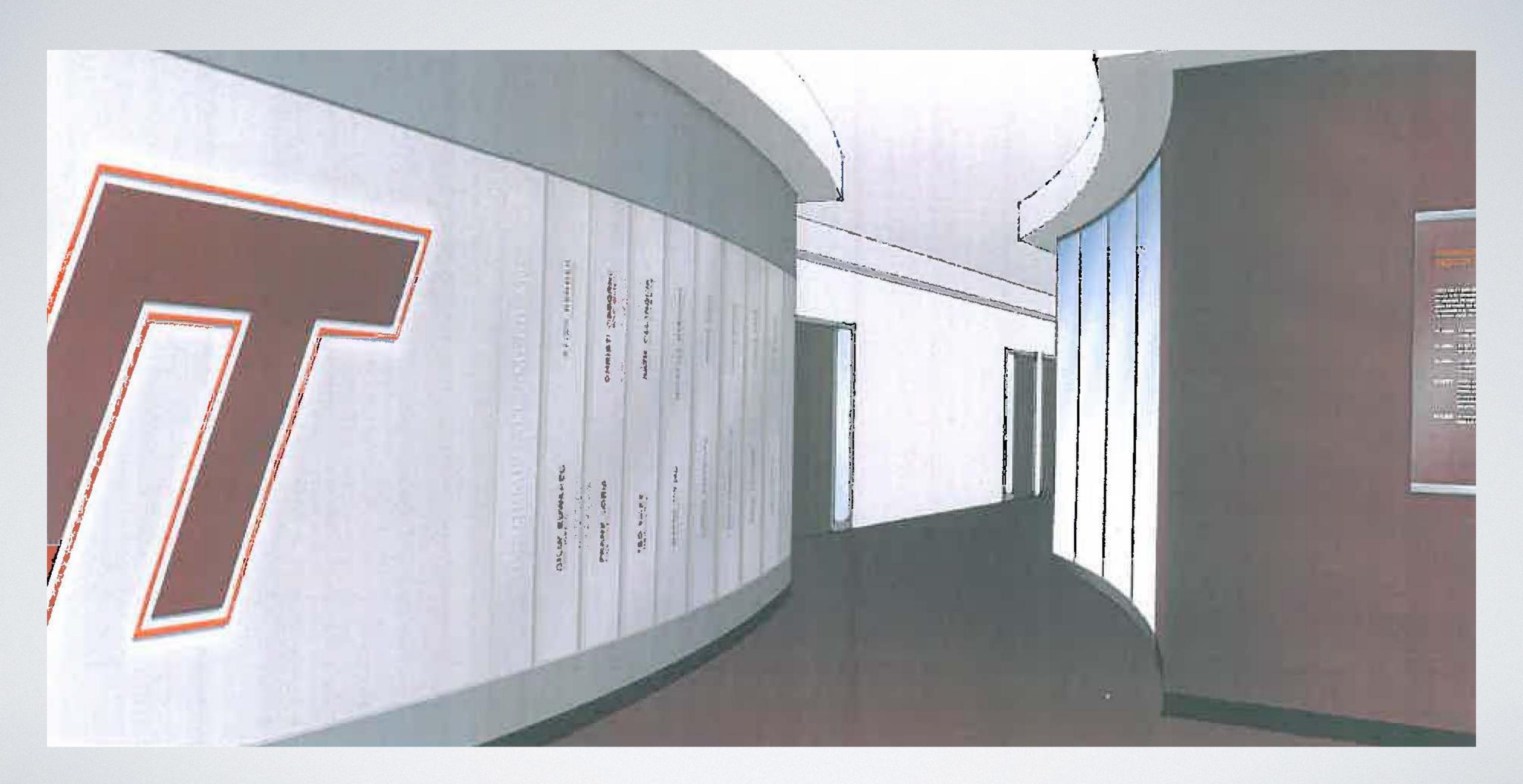
- 4. Ensuring a First-Class Student-Athlete Experience... while they are here, and beyond
  - Office of Student-Athlete Development
  - → Student-Athlete Academic Support Services (SAASS)
  - → Monogram Club rebranding engaging our former letterwinners from all eras
  - → Pylons of Promise



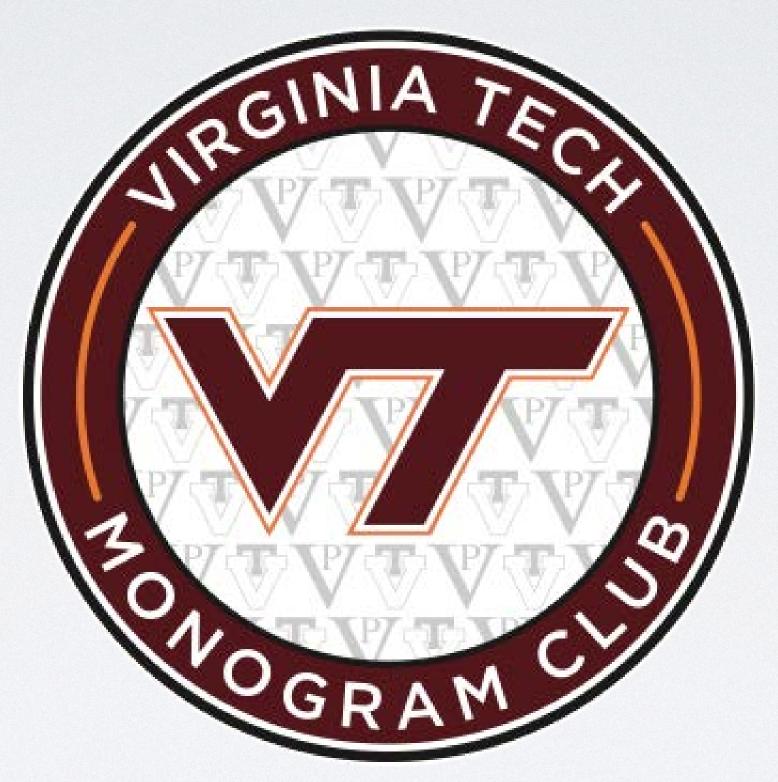
### 2014/2015 Academic Year Team G.P.A.'s







## Former Student-Athlete Engagement: Monogram Club



Honor the Past, Celebrate the Present, Support the Future.

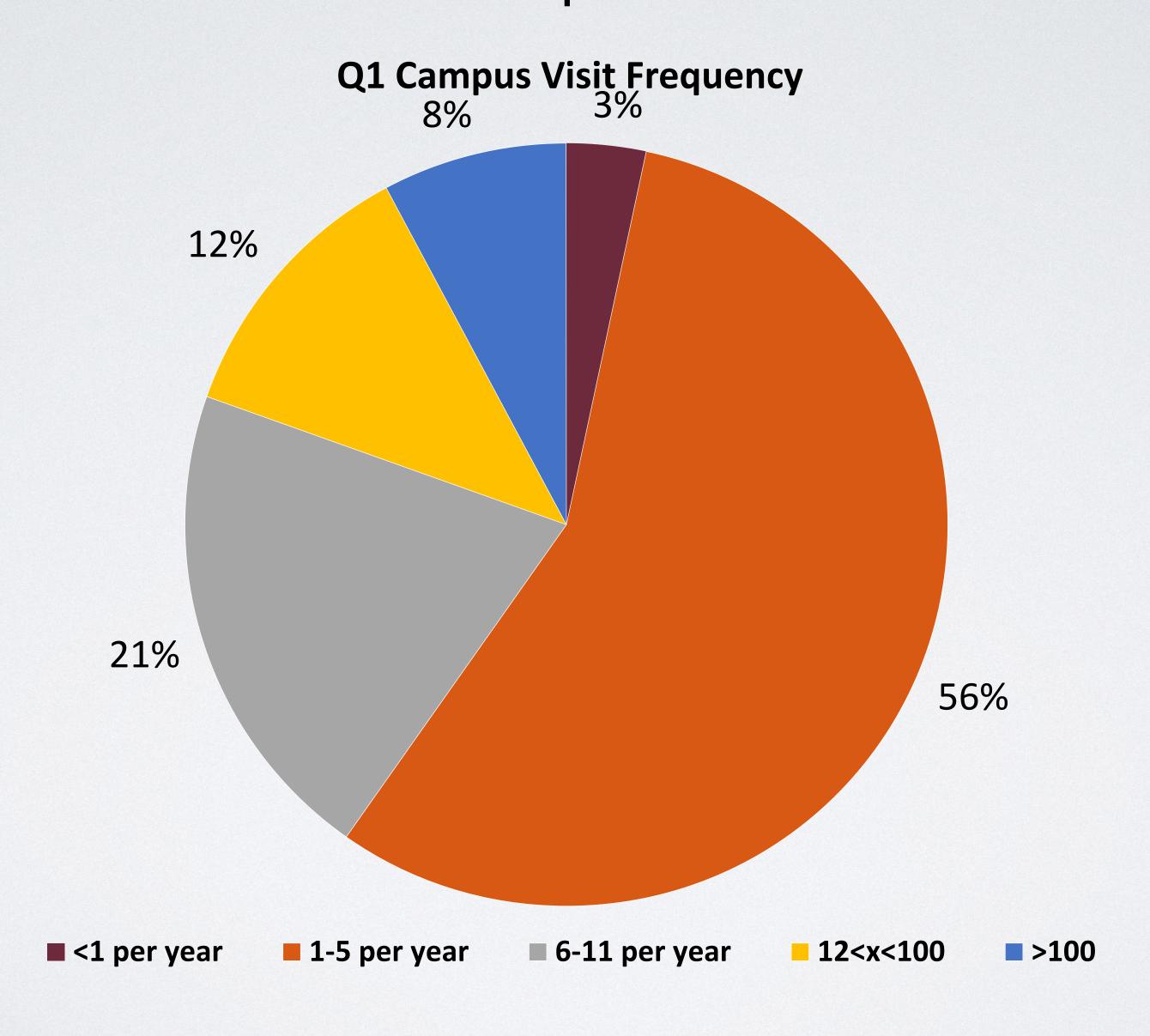
### Overview

- Department commitment to enhanced engagement with our former student-athletes
- National peer institution review
- Survey of Virginia Tech former student-athletes
- Recommendations for Monogram Club enhancements
  - Review purpose
  - Rebranding
    - Logo
    - Website
    - Brochure
  - Database compilation and coordination
  - Additional benefits
  - Future opportunities for fundraising, networking, and mentor opportunities

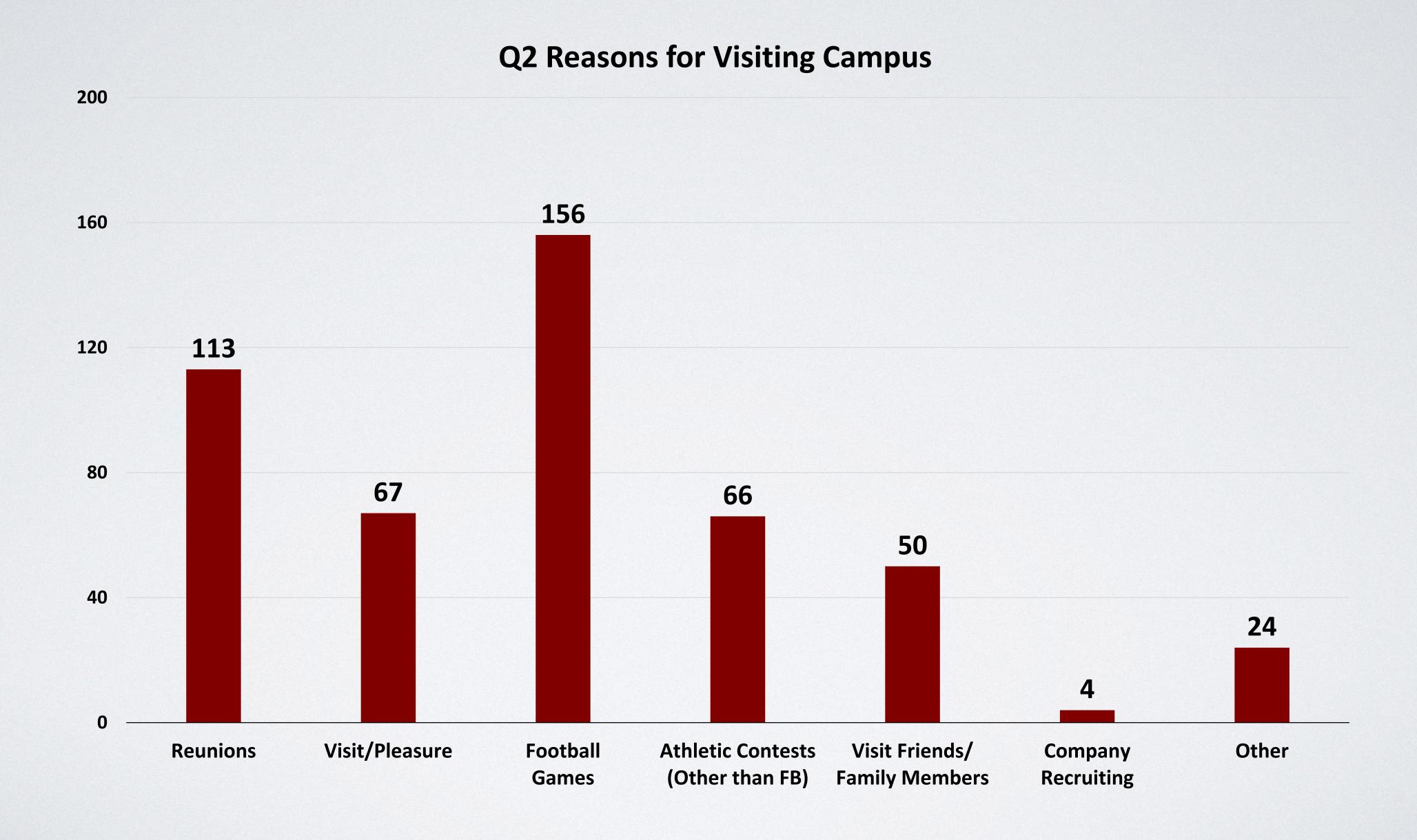
### National Peer Institution Review

- Analyzed the following within the letterwinner associations of peer institutions:
  - Reporting structure
  - Membership status
  - Dues
  - Membership benefits
  - How many/what type of events
  - Involvement with current student-athletes
  - Current membership
  - Purpose

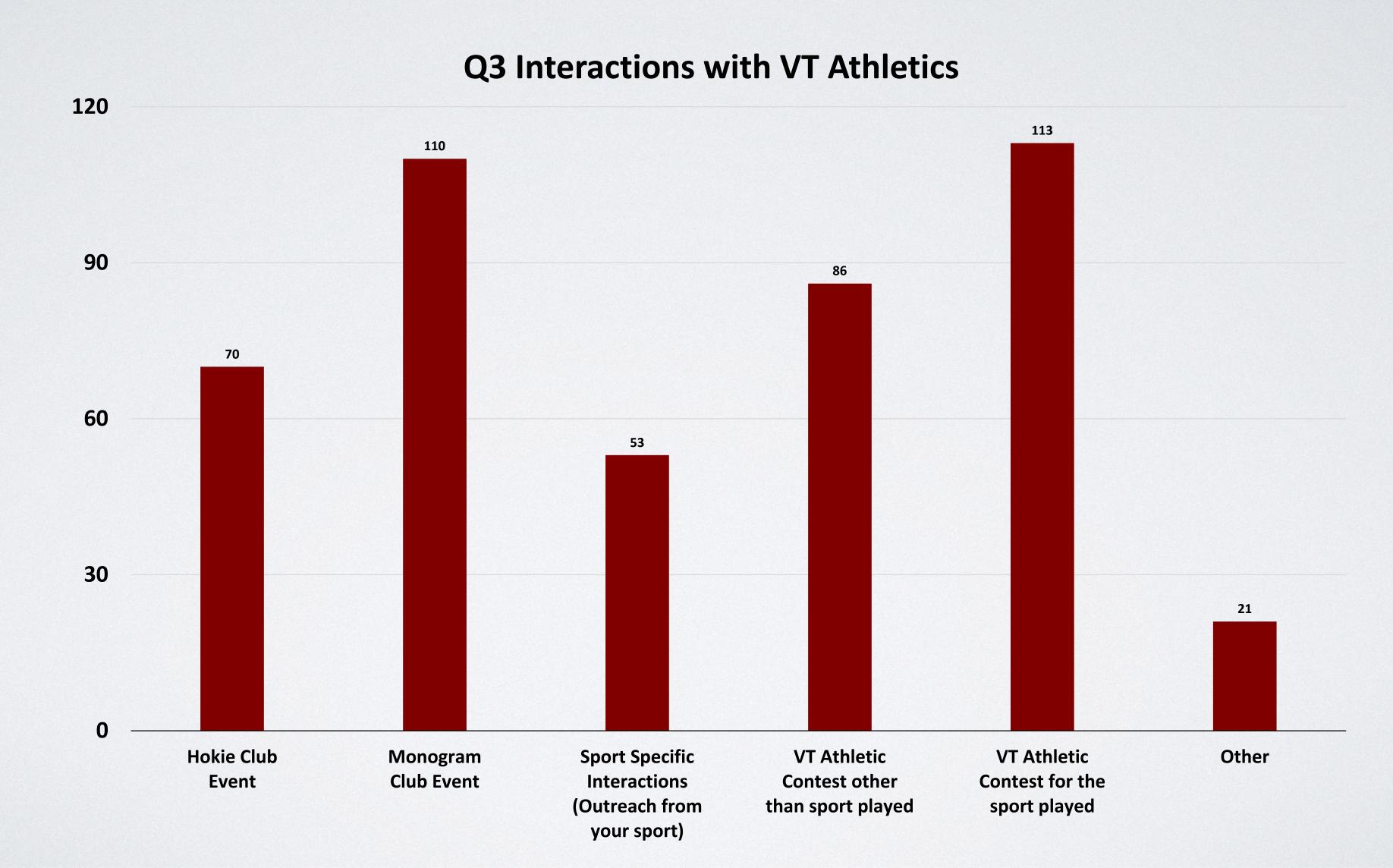
Question 1: Approximately how many times PER YEAR do you visit the Virginia Tech Campus?



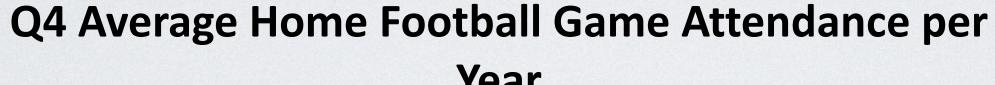
Question 2: For what reasons do you return to campus (select all that apply)?

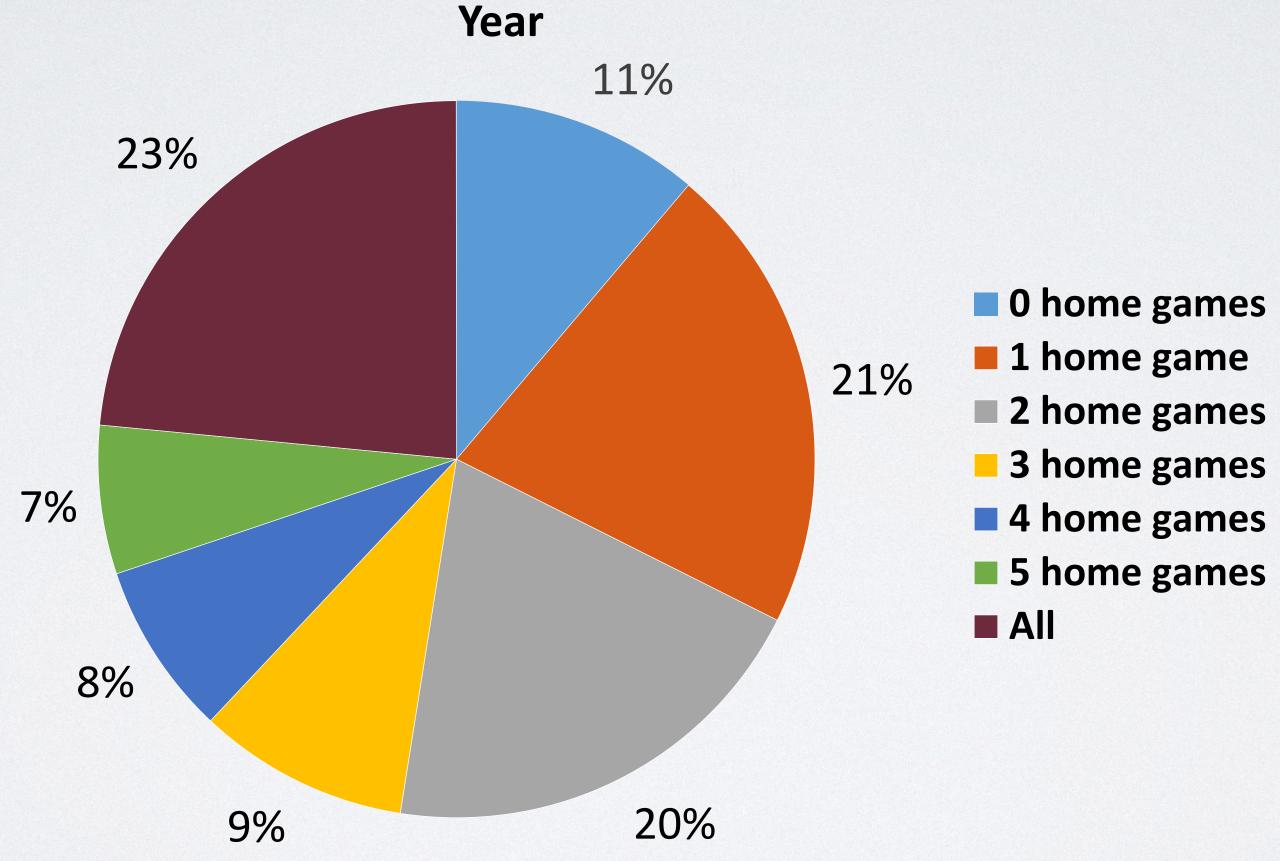


Question 3: In a typical year, what are the ways in which you would interact with the VT Athletics Department (since you left the school)? Please select all that apply.



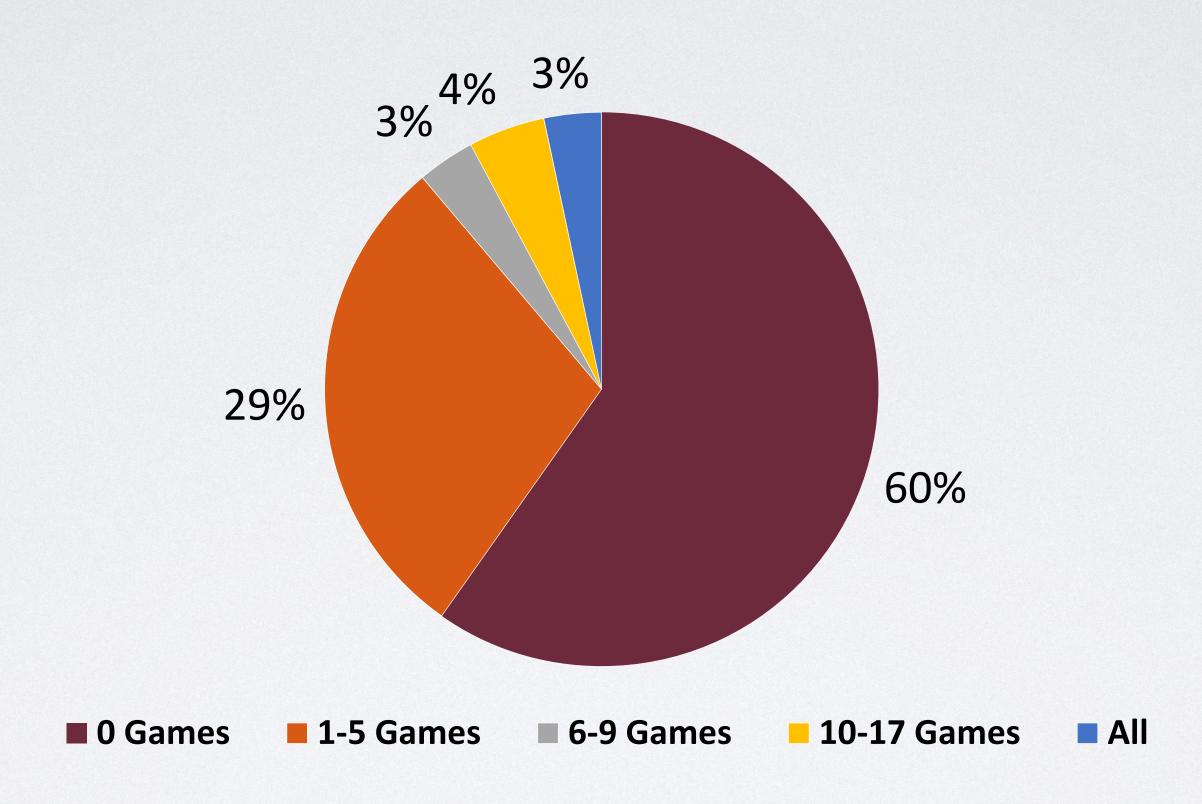
## Question 4: In a typical year, how many home football games do you attend?





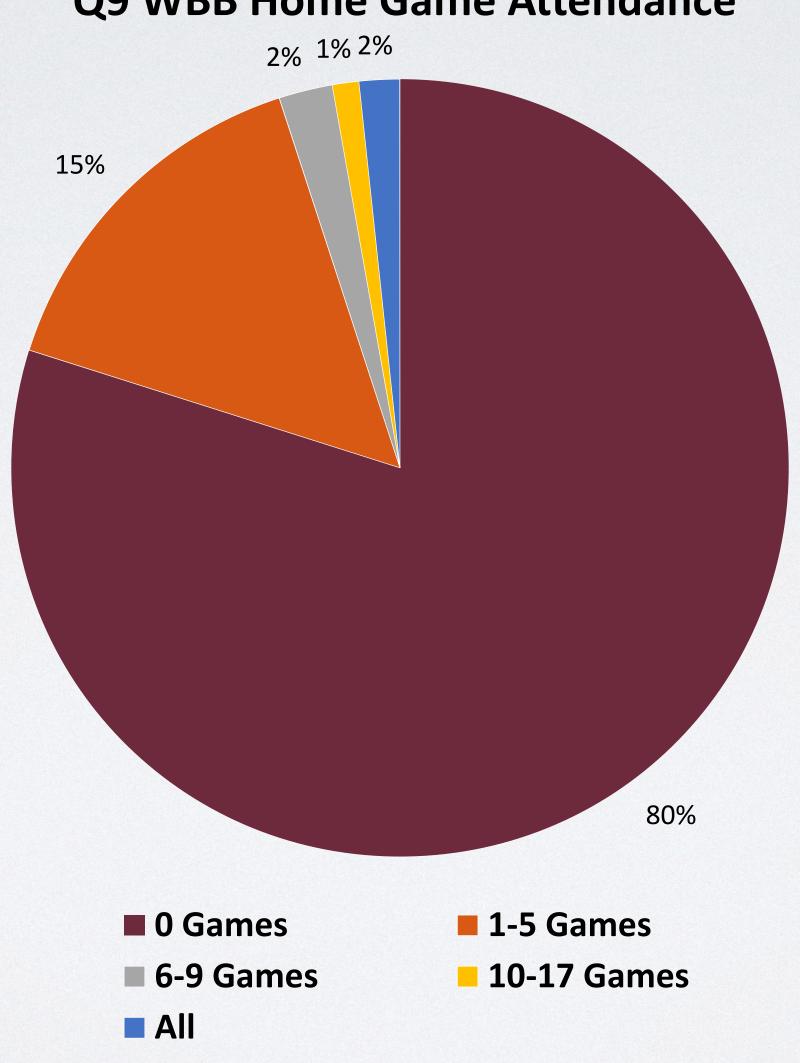
## Question 7: In a typical year, how many men's basketball games do you attend?

**Q7 MBB Home Game Attendance** 



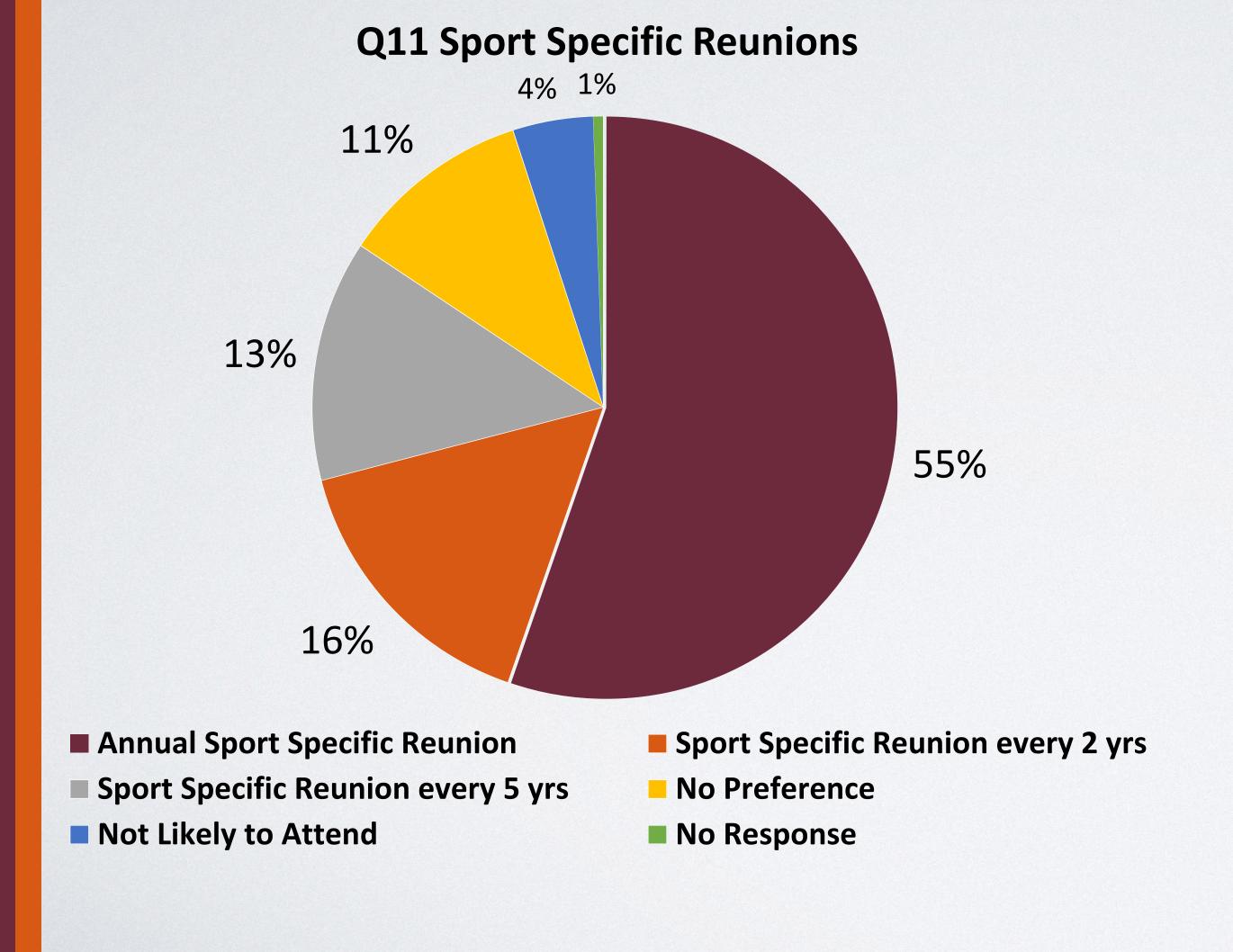
# Question 9: In a typical year, how many women's basketball games do you attend?

**Q9 WBB Home Game Attendance** 

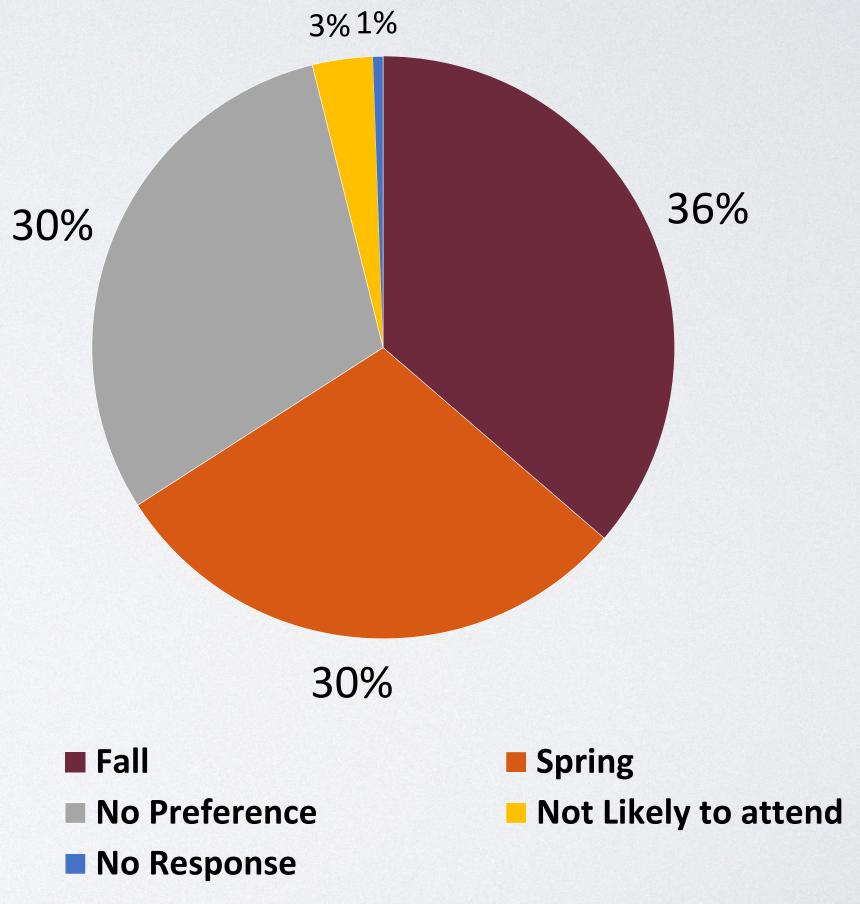


Question 11: Many VT sport programs host reunions for alumni of their teams. Of the sport specific reunions below, please select the one you would be *most likely* to attend. We will pass this information along to the coaching staffs of your sport for their records:

Question 12: The Monogram Club would like to host an annual All-Sports Reunion Event, where all VT Letter Winners would be invited to attend. Please select the time of year you would be most likely to attend this event:



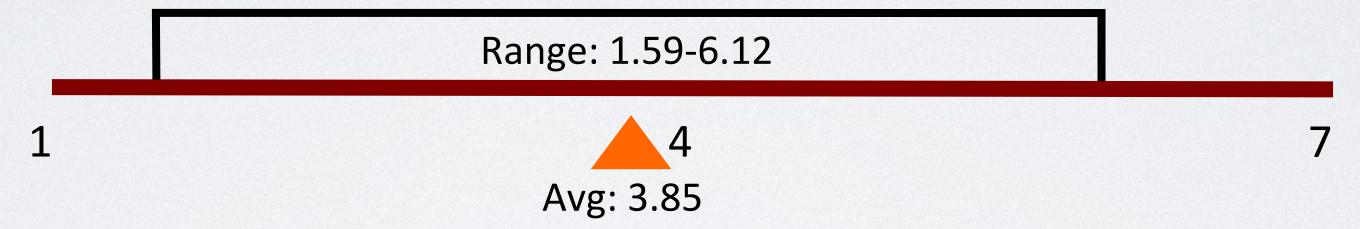
**Q12 All Sport Reunion Timing** 



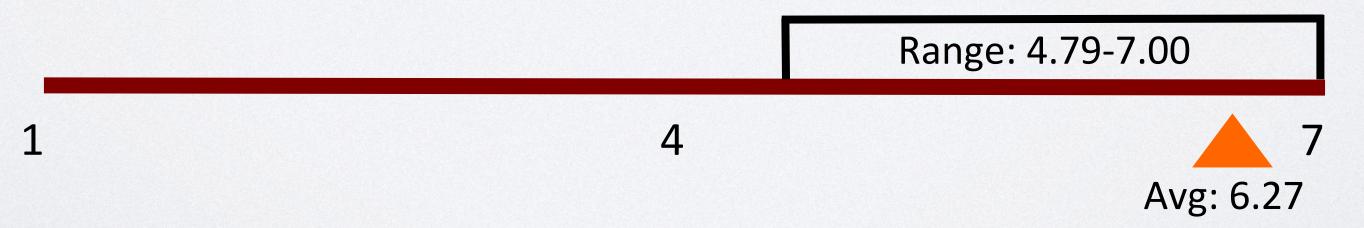
Question 13: I am interested in serving as a mentor to a current student-athlete (1= Not Interested, 7= Very interested):



Question 14: I am interested in serving as a contact for networking opportunities for current student-athletes (1= Not Interested, 7= Very interested):



Question 15: Please indicate the likelihood that you would read a quarterly Monogram Club Newsletter (1= Not Interested, 7= Very interested):

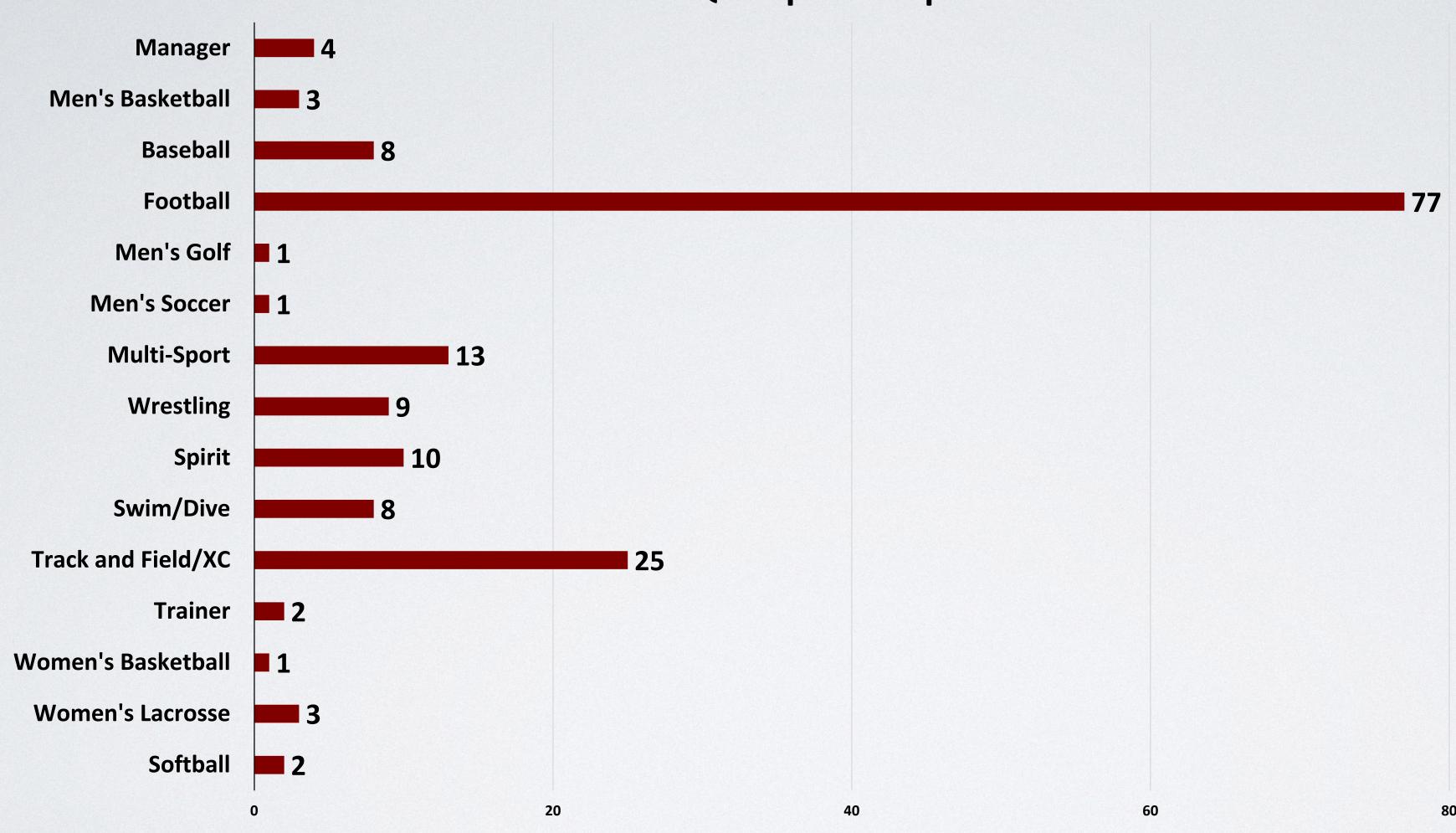


Question 16: In regards to the communication of Monogram Club news, events, and information, please rank the following methods of communication from your most preferable (signified by a 1) to least preferable (signified by a 6):



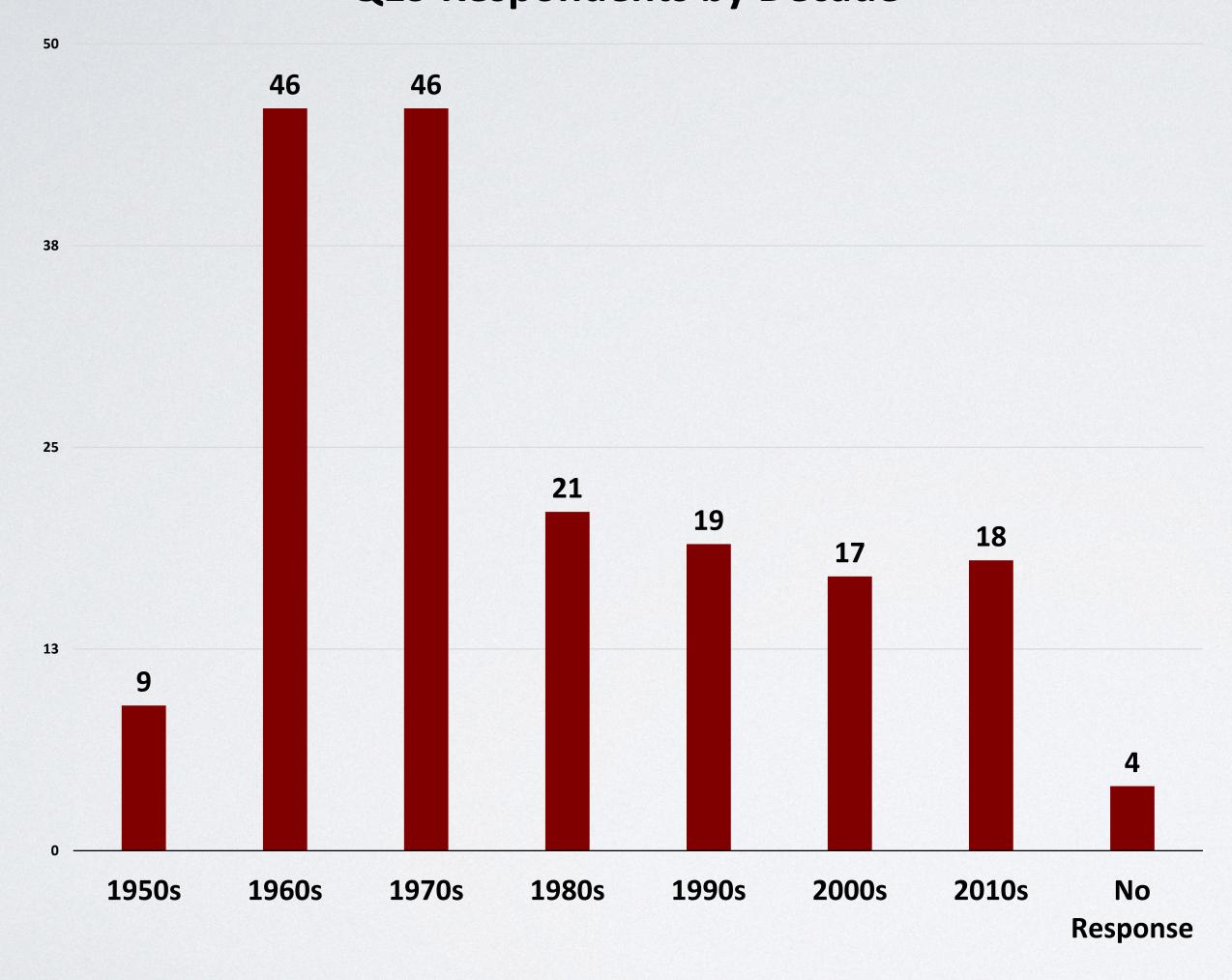
## Question 18: In what sport(s) did you letter?



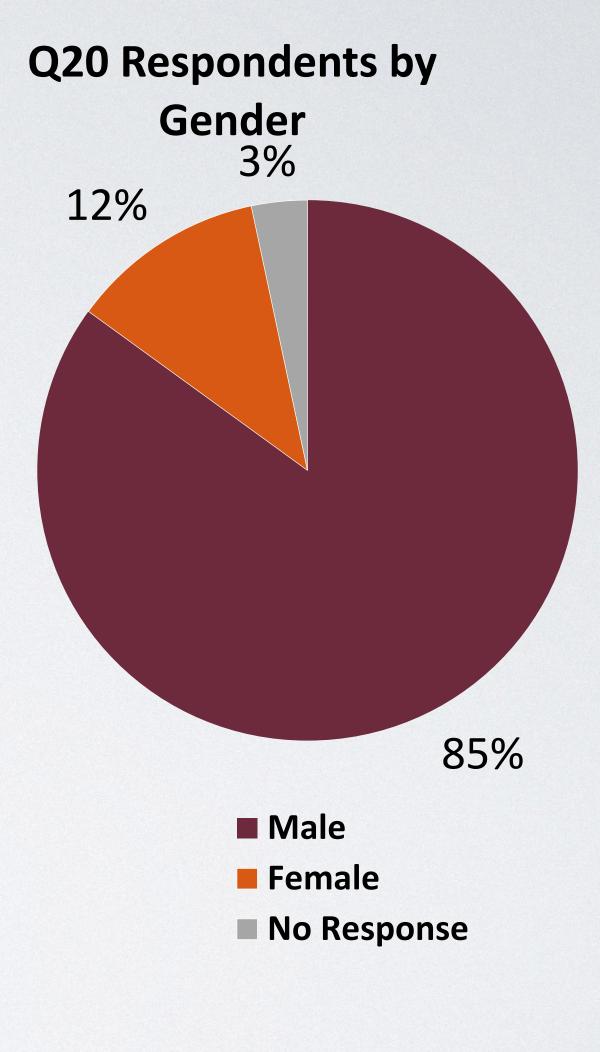


Note: If you lettered in multiple sports, you were counted in the "Multi-Sport" category only so as not to double count your response.

## Question 19: In what years did you letter in the aforementioned sport(s)? Q19 Respondents by Decade



#### Question 20: What is your gender?



Note: If you lettered in multiple decades, you were sorted into the decade in which you lettered last

#### Original Preamble:

• "We, the members of the Virginia Tech Monogram Club, are devoted to the continued promotion of the mission and purpose of Virginia Tech, namely "generating and disseminating knowledge". Inspired by its motto, "UT PROSIM", the University instills within each member of the University community an appreciation of the values and obligations of productive citizenship and the responsibilities of leadership while promoting personal and intellectual development. Our intention is to strive for the realization of that mission by channeling the insights and energies of varsity sport monogram recipients through diverse projects commensurate with Virginia Tech's image and traditions. In order to form an association to promote athletics at Virginia Tech, to promote its rights, to benefit by its privileges, and to expound the principles and practices of the organization, we hereby ordain and establish this, the Constitution of the Virginia Tech Monogram Club."

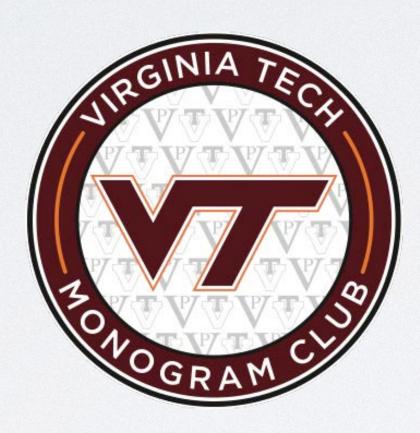
#### **New Mission Statement:**

• The Virginia Tech Monogram Club is a membership organization that seeks to honor and engage former and current letterwinners through networking and fellowship events, in order to celebrate the traditions and promote the value of the Virginia Tech student-athlete experience.

- Rebranding
  - Old logo

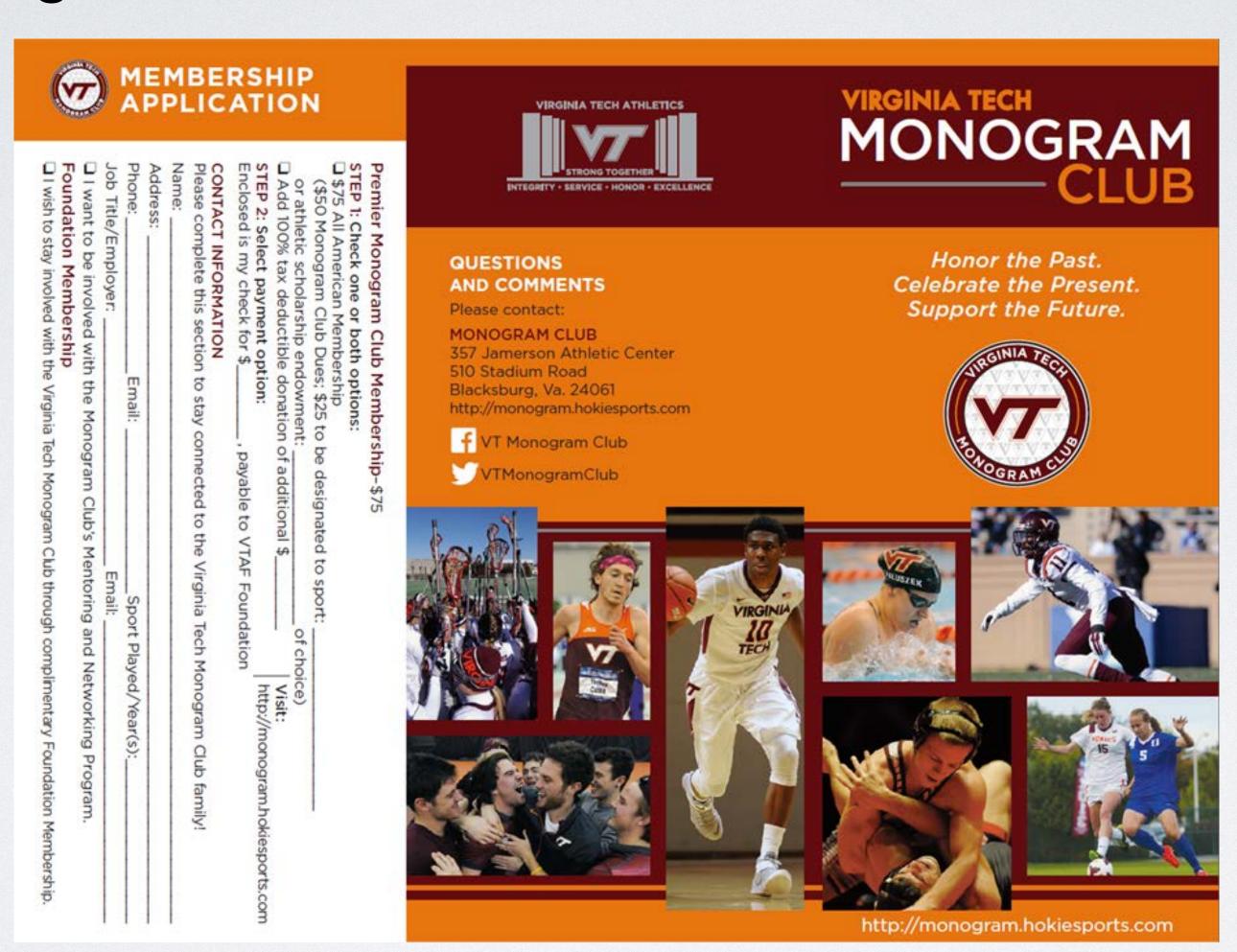


New logo



- Website
  - Internal management
  - Consistency
  - Launch: September 2015

Rebranding and Mass Solicitation: Member Brochure



#### Membership Benefits:

#### Foundation - Complimentary

Benefits:

Exclusive Monogram Club Newsletter (Quarterly)
Invitations to exclusive former & current student-athlete events

#### **Premier** - \$75.00

\$50.00 – Annual Monogram Club dues

\$25.00 – Specific sport fund or scholarship endowment designation of your choice

#### Benefits:

Exclusive Monogram Club Newsletter (Quarterly)

Invitations to exclusive former & current student-athlete events

Access to Virtual Wall of Champions

Opportunity to purchase football and basketball single game tickets

Opportunity to participate in the Pre-Game Tunnel at a Virginia Tech home football game

Exclusive Monogram Club annual gift

## Opportunities for Future Growth

- 1. Diversified membership representation
- 2. Coordination and compilation of databases with campus entities
- 3. Fundraising
  - a. Scholarship Endowments
  - b. Future Locker Campaigns
  - c. Building relationships with Hokies in the Pros
- 4. Connectivity between former and current student-athletes
  - a. Bi-annual Letter Jacket Ceremony
  - b. Career Jumpstart (Student-Athlete Development)
  - c. Hokies Hire Hokies
  - d. Mentoring Opportunities



# VIRGINIA TECH STUDENT-ATHLETE PYLONS of PROMISE

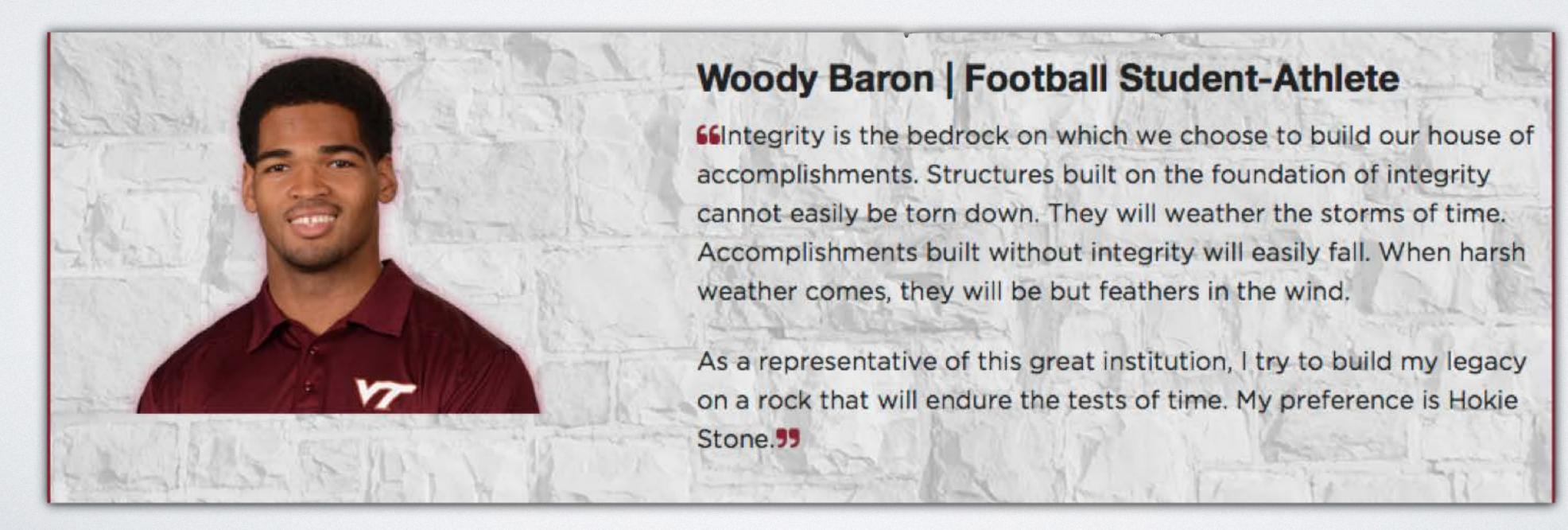
The Virginia Tech Student-Athlete Pylons of Promise sets forth our commitment to our student-athletes during their time at Virginia Tech and beyond.¹ This Promise is based on the ideals emblazoned on the eight pylons at the Virginia Tech War Memorial Court and our athletics department's guiding principles of INTEGRITY, SERVICE, HONOR, EXCELLENCE, and STRONG TOGETHER.

Our shared commitments with our Virginia Tech student-athletes are as follows:

# INTEGRITY

#### FOUR-YEAR SCHOLARSHIP COMMITMENT

Athletics scholarships may be awarded on an annual or multi-year basis. Four-year scholarships are available for full equivalency scholarship student-athletes entering Virginia Tech. All scholarships set forth in writing the amount of the scholarship, the duration and any conditions of the award. Scholarship terms will be honored unless the student-athlete voluntarily leaves the team, renders himself or herself ineligible, or violates NCAA, ACC, university or department policies. Any reduction of a scholarship's terms may be appealed to an independent panel. Scholarship terms will not be reduced because of a student-athlete's injury, illness, or physical or mental condition which prevents or limits participation in athletics, nor on the basis of a student-athlete's athletics ability or athletics performance.

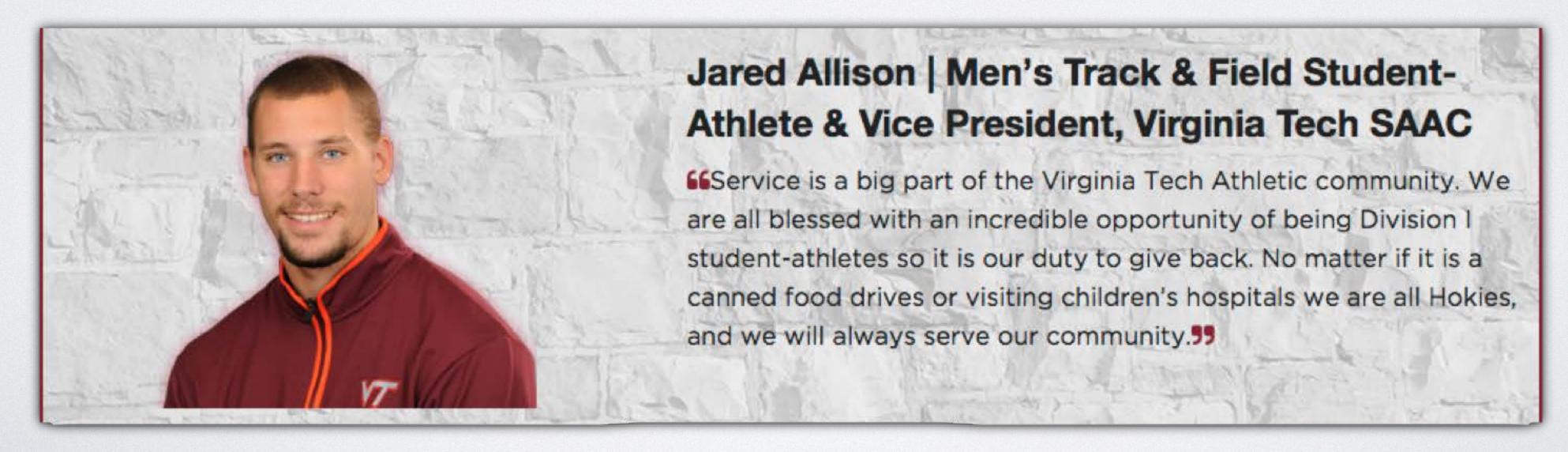




#### LEADERSHIP DEVELOPMENT

Virginia Tech is committed to developing leaders. The Department of Athletics provides our student-athletes with a comprehensive, multi-faceted leadership development program which includes:

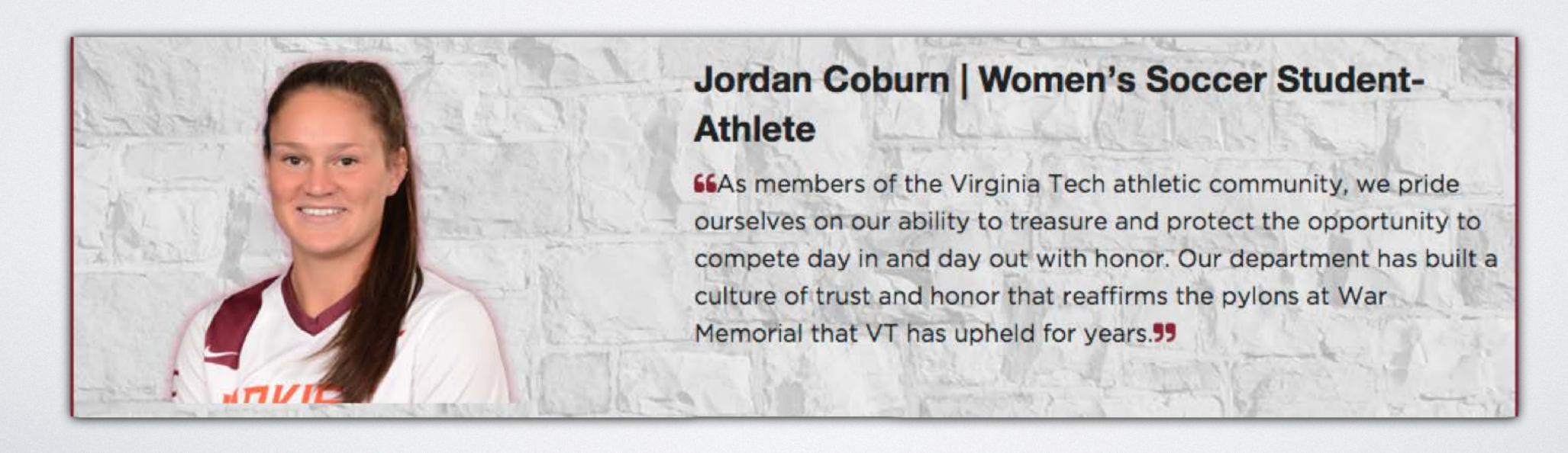
- Leadership assessment and development curriculum;
- International service-learning opportunities designed to promote global leadership skills; and
- A targeted student-athlete career development program to help facilitate a student-athlete's transition to their professional aspirations. Upon successful completion of this program, each student-athlete will be provided with a complimentary interview suit to launch their career after their playing days at Virginia Tech are complete.





#### A CULTURE OF TRUST AND RESPECT

With service and honor at our core, Virginia Tech develops student-athletes to be the best men and women they can be in an environment of trust and respect with a commitment to compliance. Virginia Tech follows the letter and spirit of NCAA, ACC and institutional rules. Through the Virginia Tech Principles of Community, we acknowledge the importance of diversity and inclusion and the extent to which they enhance the lives of student-athletes and the university. We encourage a healthy environment, free of prejudice and discrimination including demeaning language and physical, verbal and emotional abuse.



# EXCELLENCE

#### COMPREHENSIVE HEALTH, SAFETY, AND WELLNESS

Virginia Tech is committed to protecting and enhancing the health, safety, and wellness of all of our student-athletes. These commitments include, (but are not limited to) access to:

- A comprehensive athletic performance program dedicated to providing the most efficient and effective broad-based care for Virginia Tech student-athletes incorporating sports medicine, sports psychology, and performance, strength and conditioning services;
- High-quality medical, dental, vision, psychological, rehabilitation, preventative and related healthcare services for all student-athletes;
- Assistance for student-athletes to purchase loss-of-value insurance based on their future earnings as professional athletes, consistent with the athletics department's protocol for disability insurance;
- A comprehensive sports nutrition program and state-of-the-art Nutrition Oasis, fueling stations,
   Gatorade hydration options, and training table providing optimal nutrition for student-athletes before, during, and after training;
- Quality transportation, housing, meals and per diem to all student-athletes
  - traveling to away competitions; and
- No. 1 nationally ranked on-campus dining options.





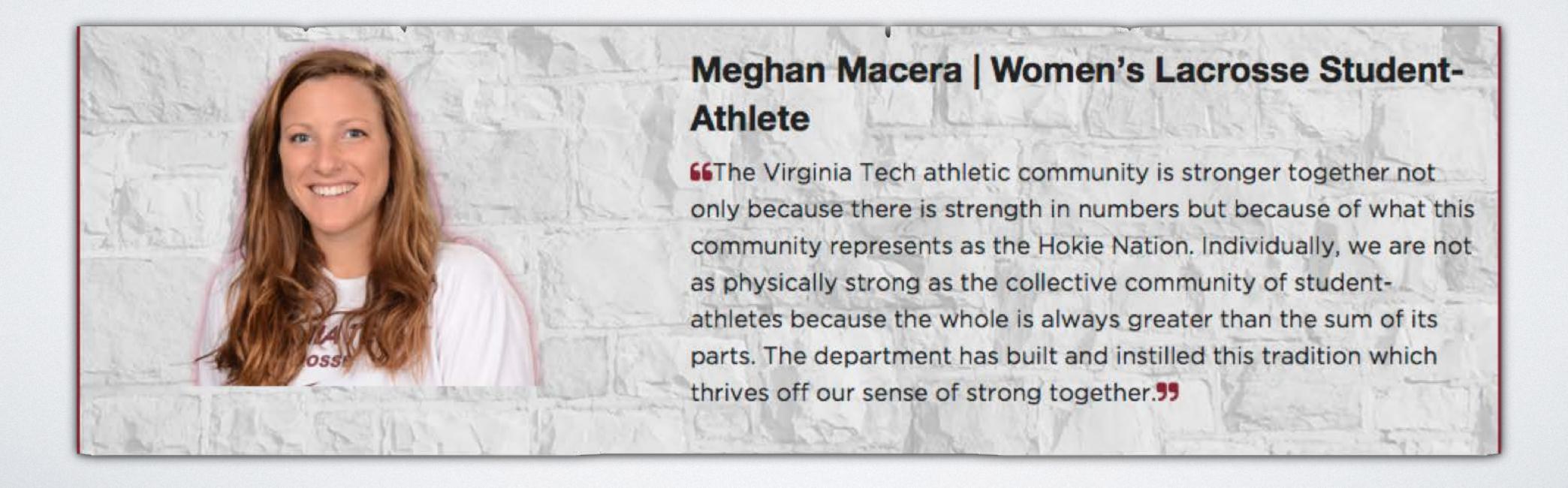


## STRONG TOGETHER

#### A SHARED RESPONSIBILITY

As highly visible members of the Virginia Tech community, student-athletes are expected to conduct themselves, both on and off campus, in a manner which respectfully represents their family, team and Virginia Tech. They should at all times demonstrate good judgment and ethical behavior and are expected to adhere to the policies stated within the Hokie Handbook.

It is a privilege to represent Virginia Tech. Our student-athletes, coaches and staff share in this privilege and are expected to act with honor and respect in all that we do.





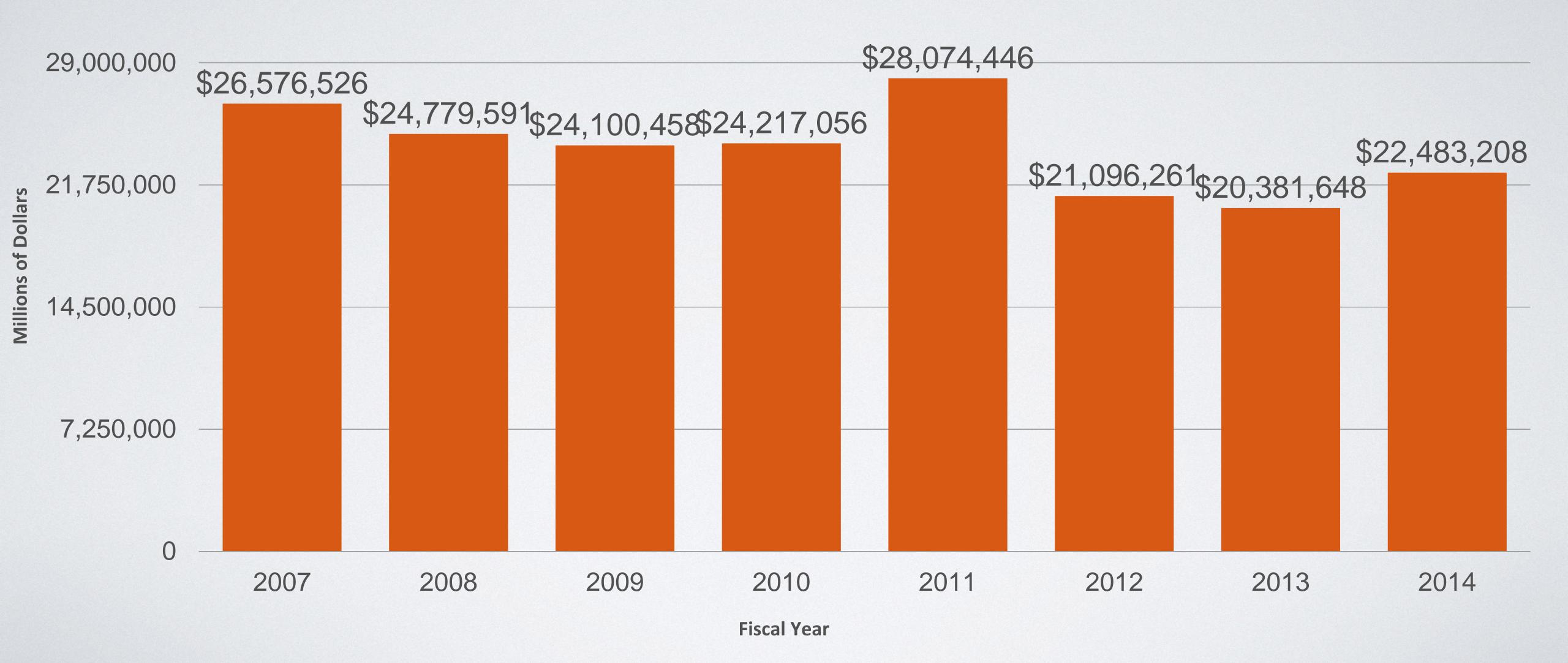
#### 5. Revenue Generation

- Fundraising and the evolution of the Hokie Club
- → Ticket revenue and Premium Seating initiatives in football and men's basketball
- ACC Channel??
- Corporate partner development



### Virginia Tech Fundraising Cash Totals

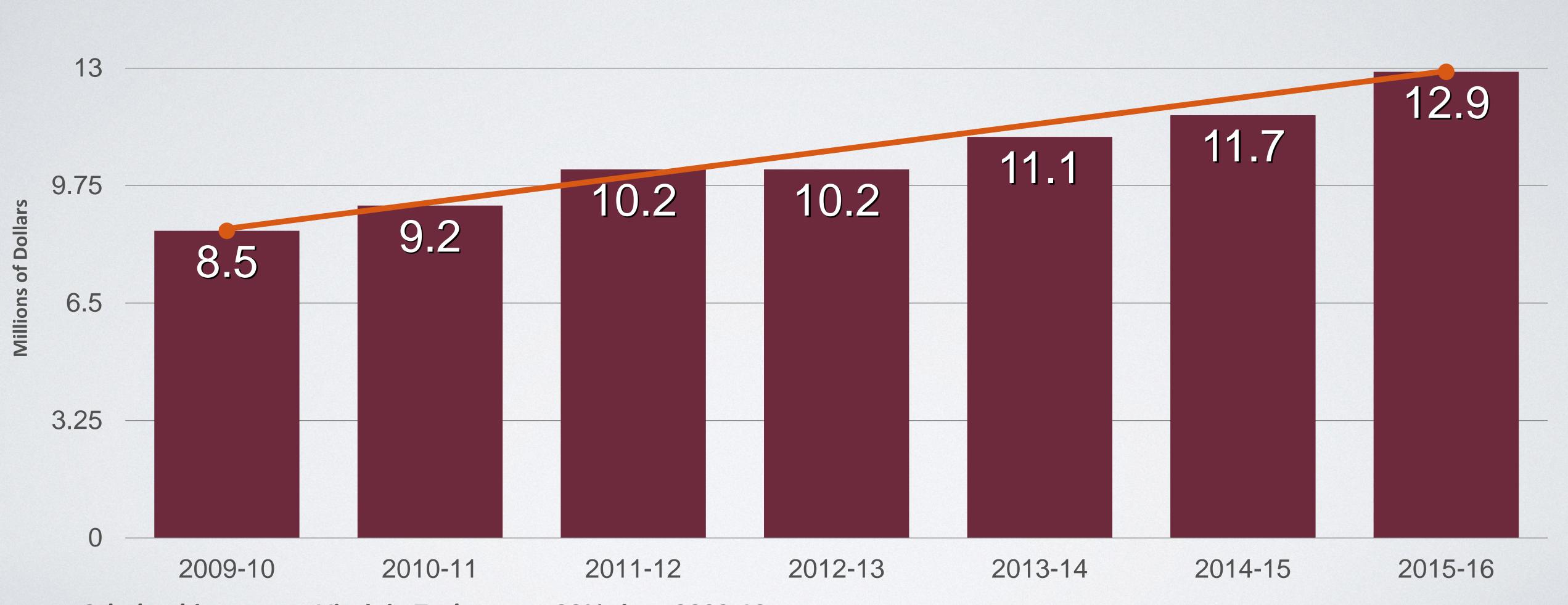






## Virginia Tech Student-Athlete Scholarship Costs



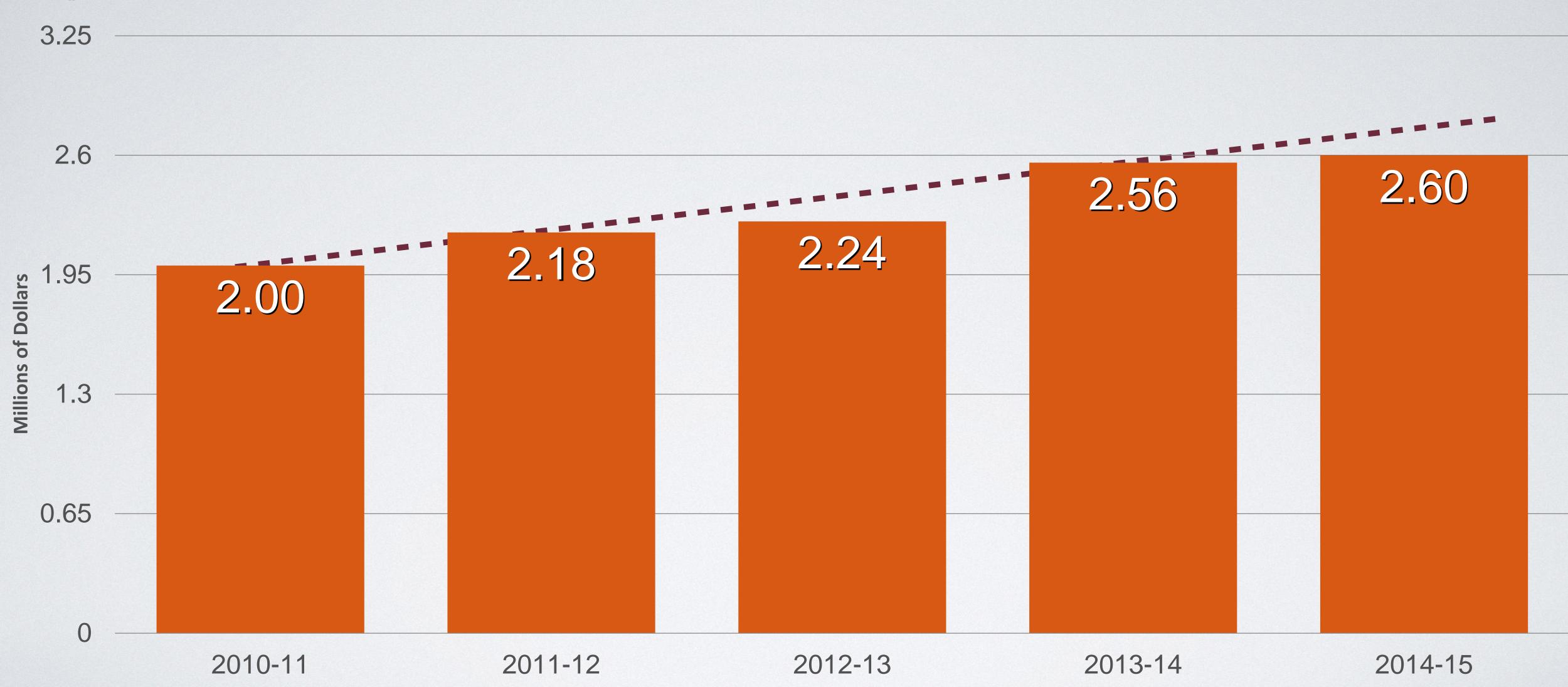


- Scholarship costs at Virginia Tech are up 38% since 2009-10.
- Cost of Attendance has/will increase the scholarship "bill" by approximately \$950,000+ per year to \$12.9M+



## Hokie Club Expense/Budget



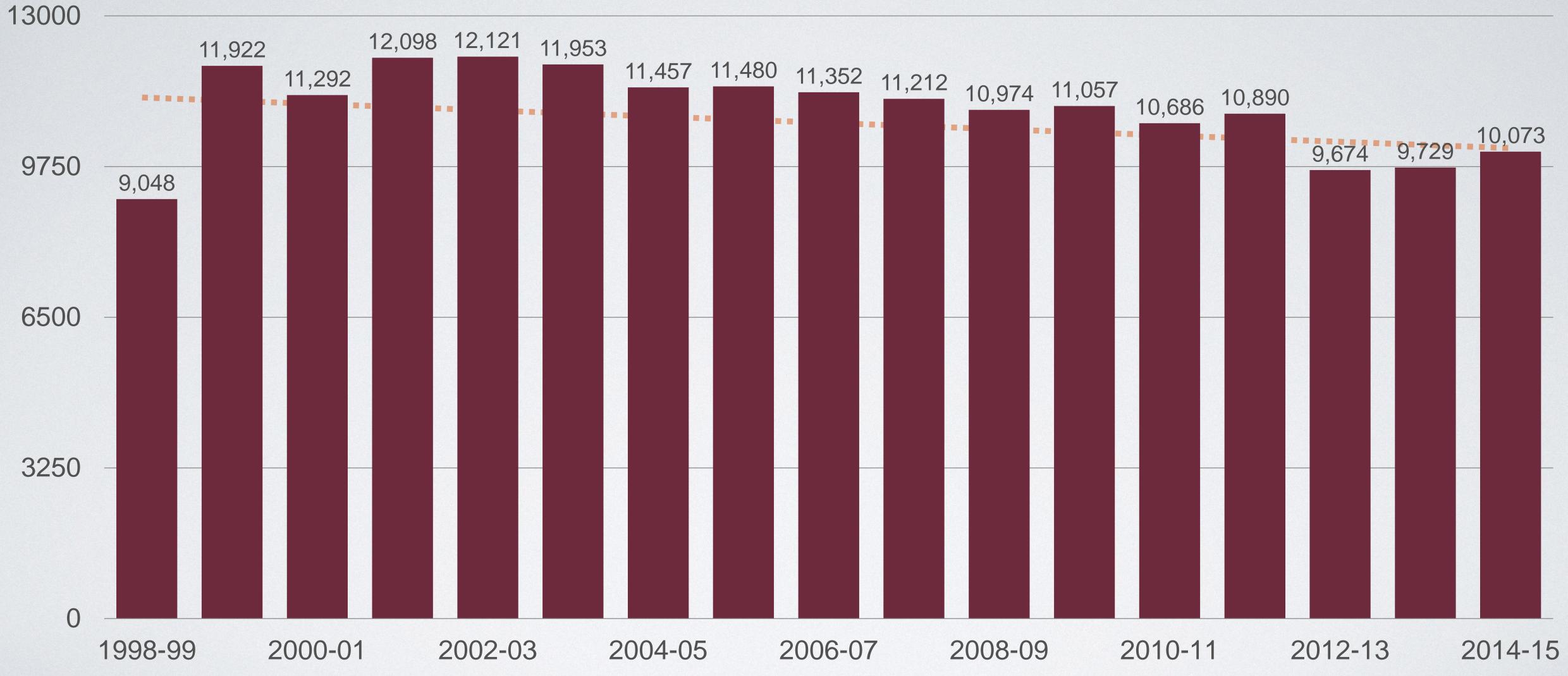


The entire Hokie Club budget (including all salaries) are paid for by the Department of Athletics...this is in addition to the 3.5% Campus development assessment fee. Budget costs have increased by approximately 25% since 2010-11.



#### **Total Number of Donors to the Hokie Club**



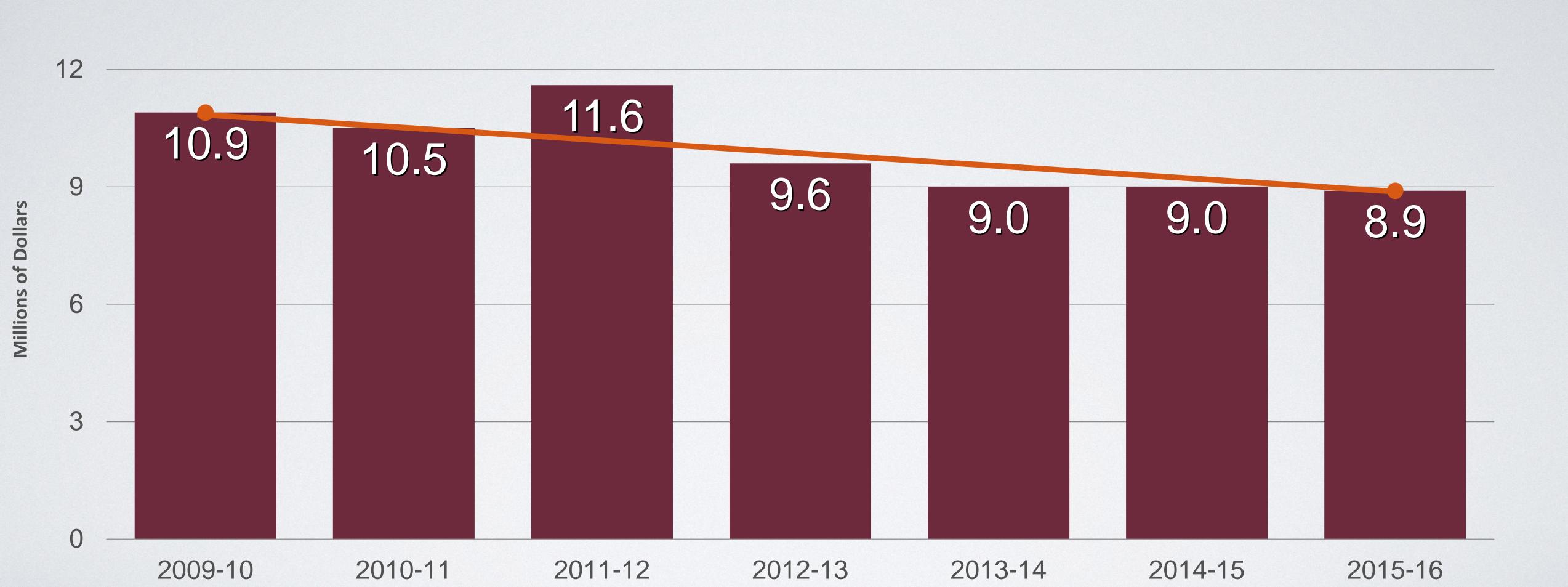


Donor participation has decreased by approximately 10% since 2009-10.



## Hokie Club Annual Fund/Ticket Priority Gifts Received



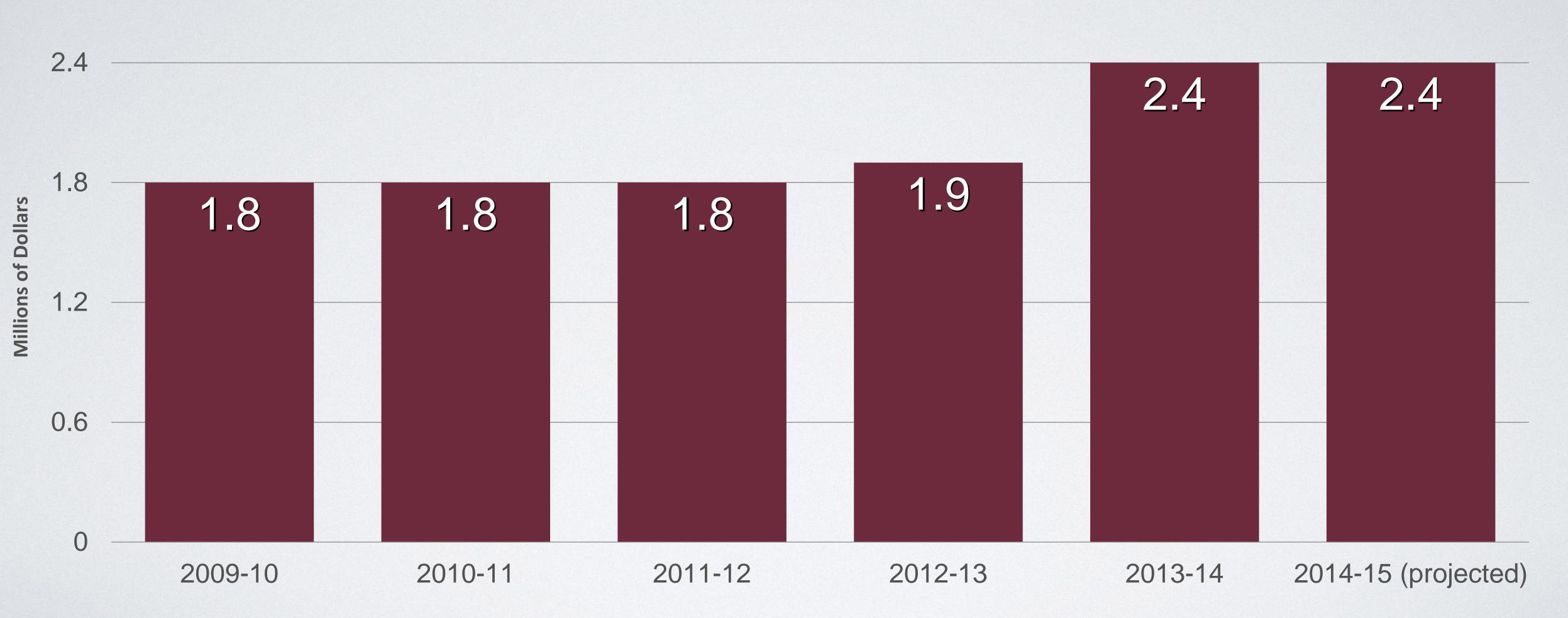


Hokie Club Annual Fund Scholarship Gifts have decreased by 22% since 2009-10.



## Virginia Tech/Hokie Club Scholarship/Endowment Interest



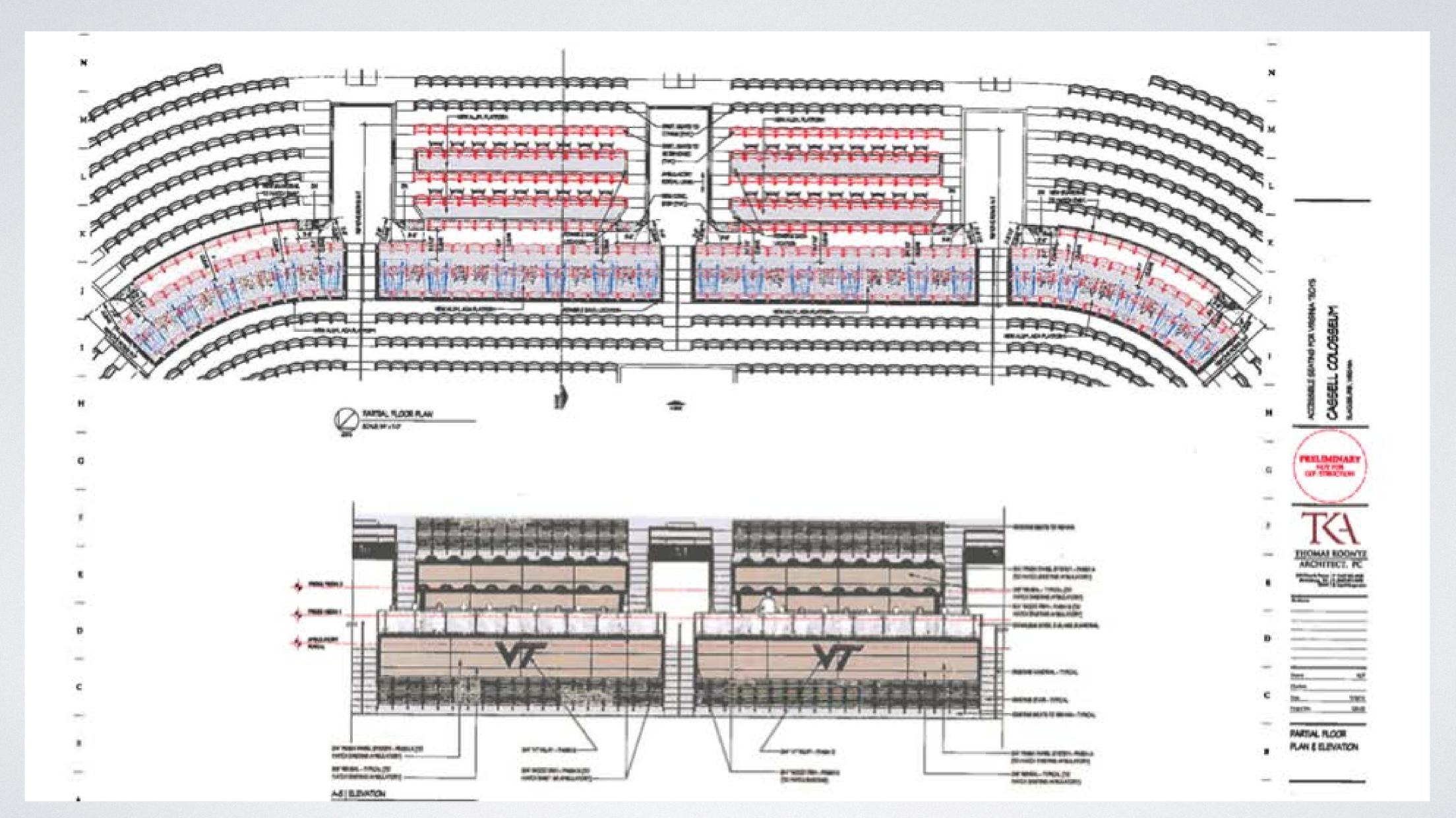


Scholarship endowment is up 33% since 2009-10.



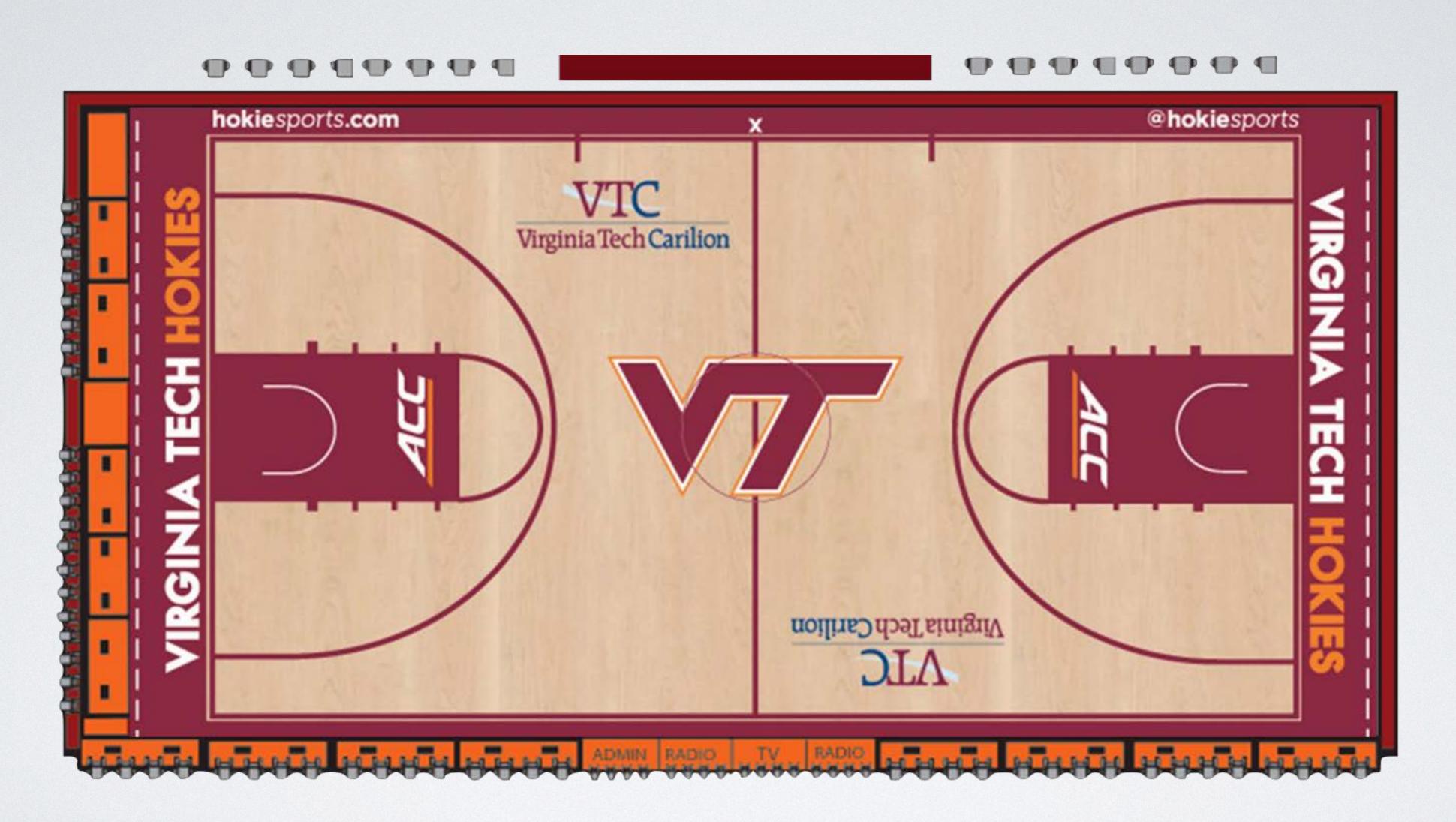








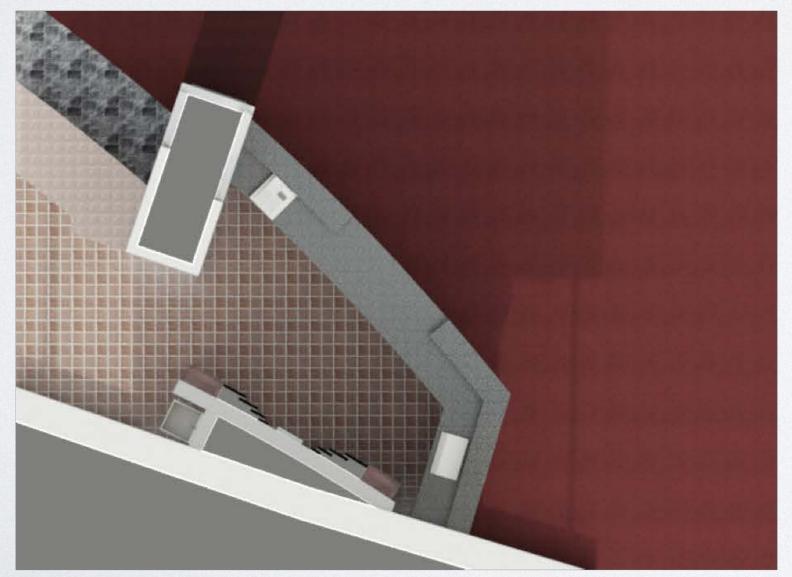












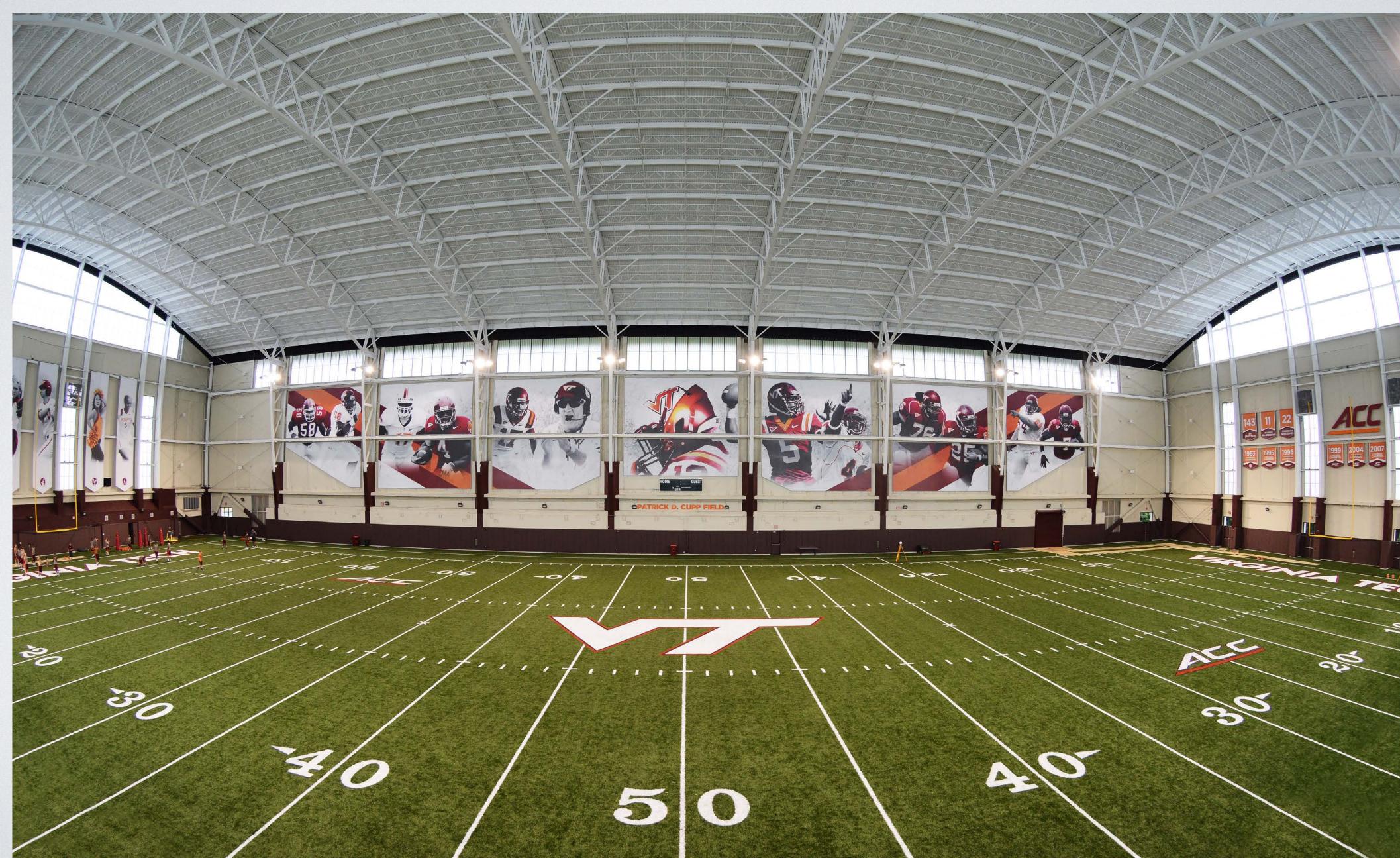




#### 6. Facilities and Events

- Indoor Practice Facility dedication
- → Set the course for the future vision and "master planning"
- Increased sustainability and energy efforts
- Customer service and fan engagement
- •Streamline; have excellent events; better coordinated

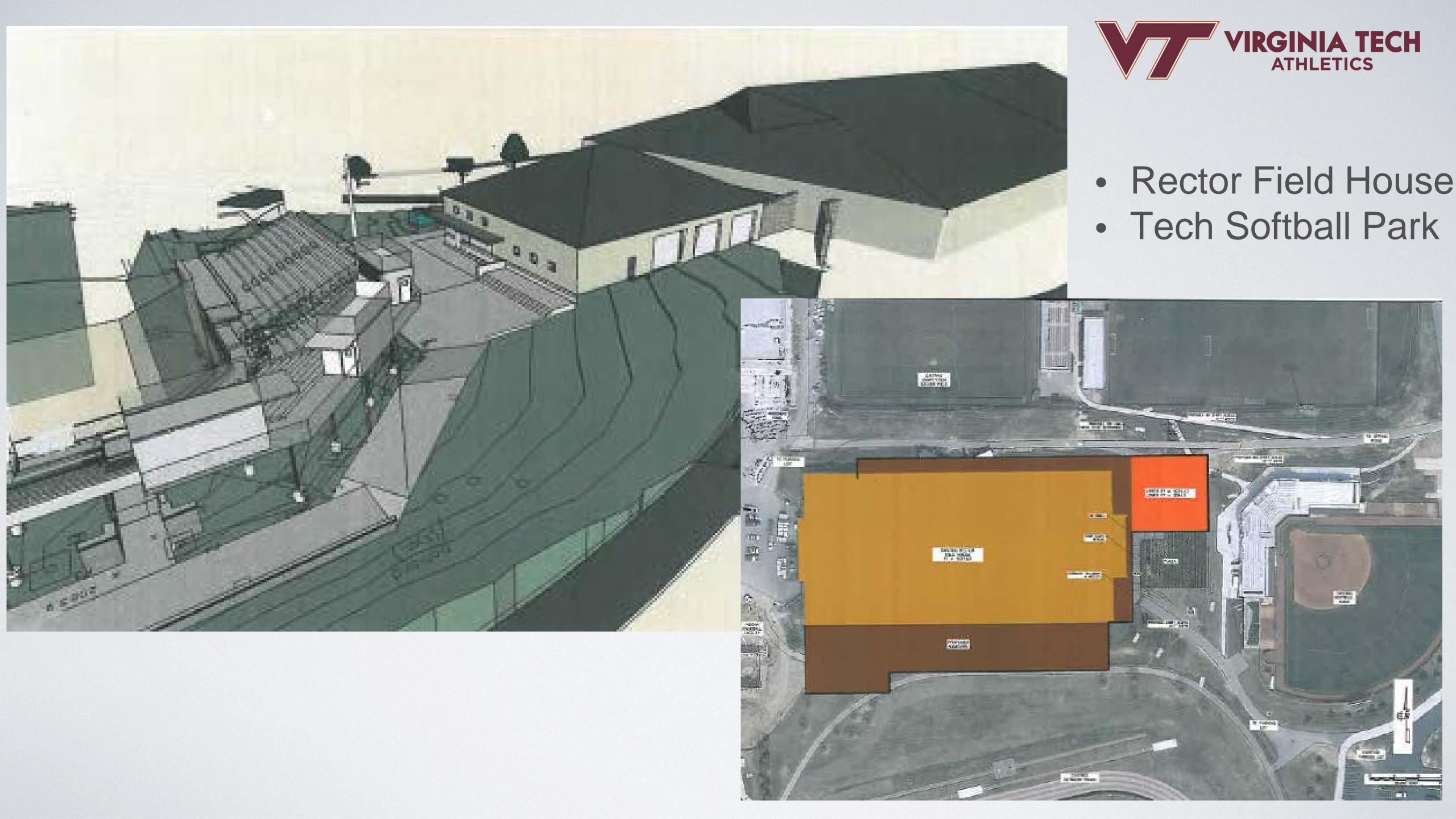






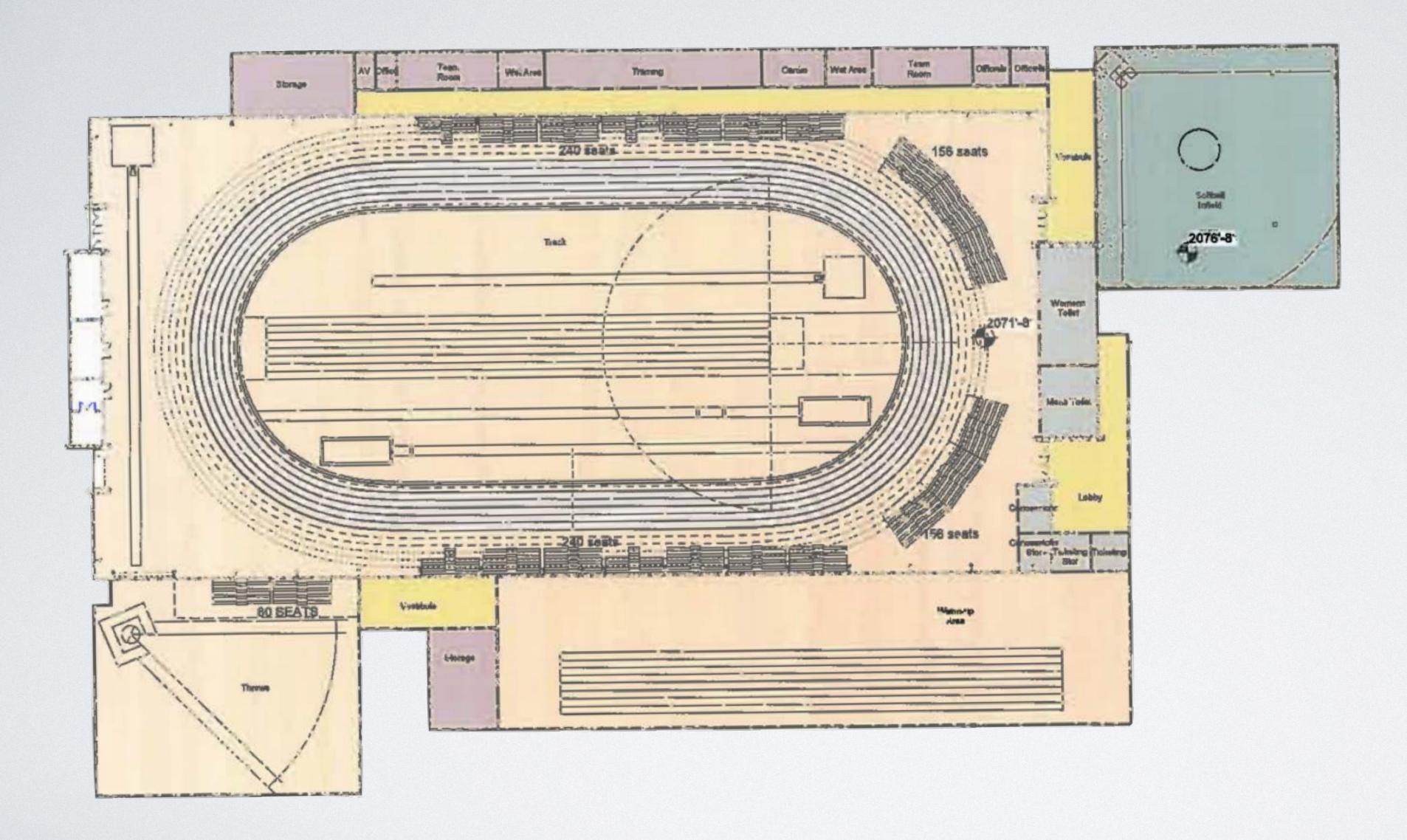
Note: Many of the following images and renderings are conceptual in nature only and are not necessarily official priorities of the Department of Intercollegiate Athletics.

More study and evolution is recommended and university policies and protocols will be followed for all future capital initiatives.



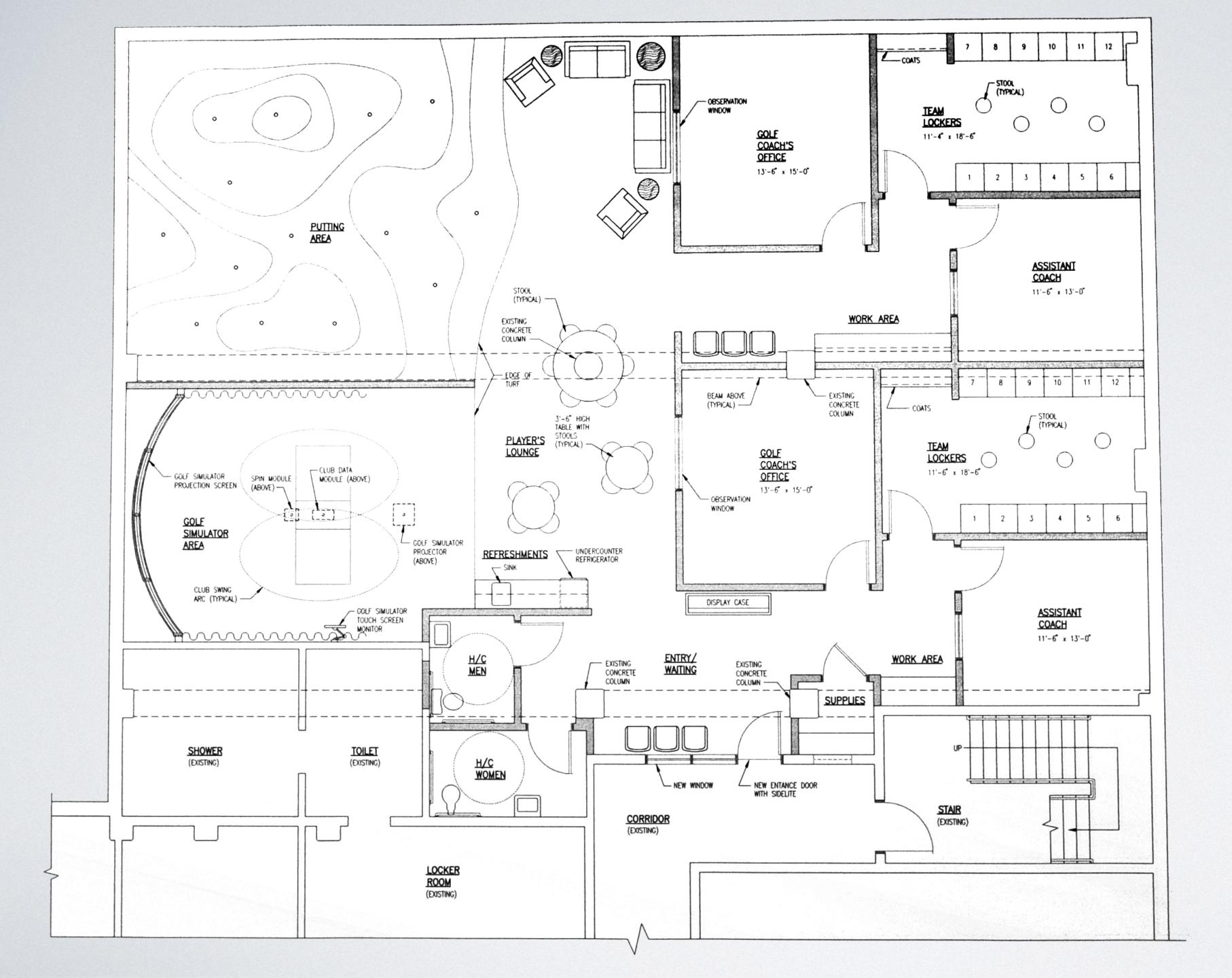


#### Rector Field House



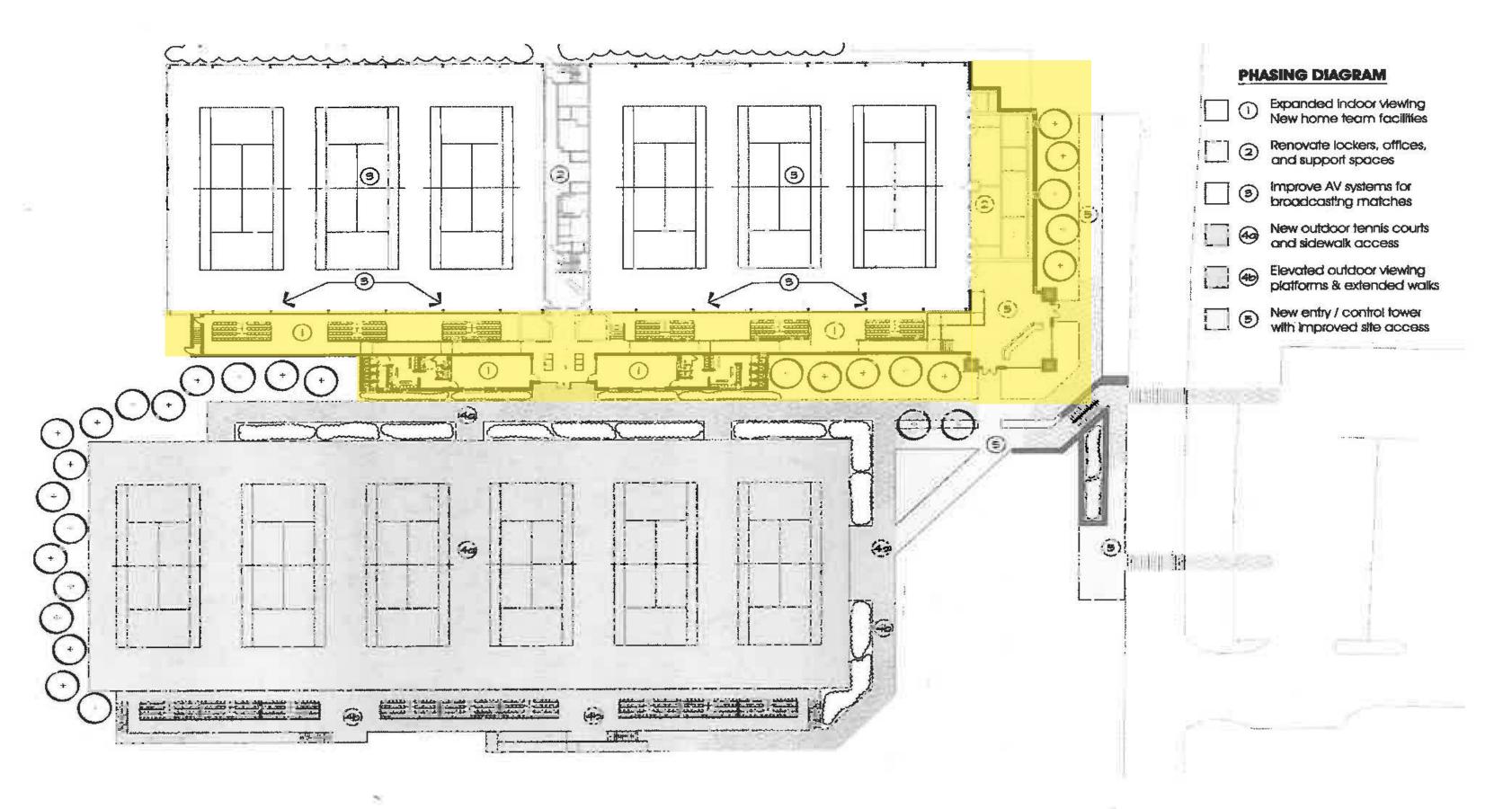








## Men's & Women's Golf On-Campus Training Facility



18 DECEMBER 2013

SCALE: 1" = 40'-0"

PHASING DIAGRAM
Virginia Tech - Varsity Tennis Facilities
Blacksburg, Virginia





#### Burrows-Burleson Tennis Center





English Field



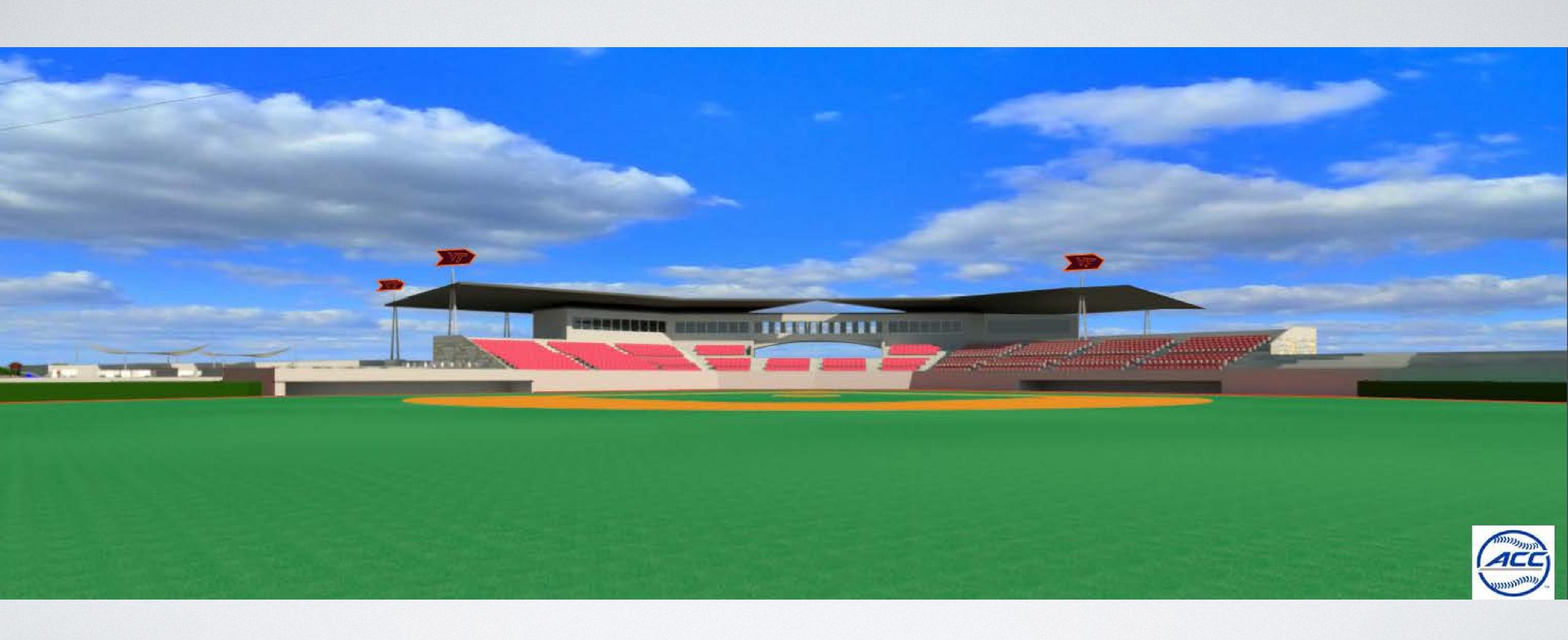




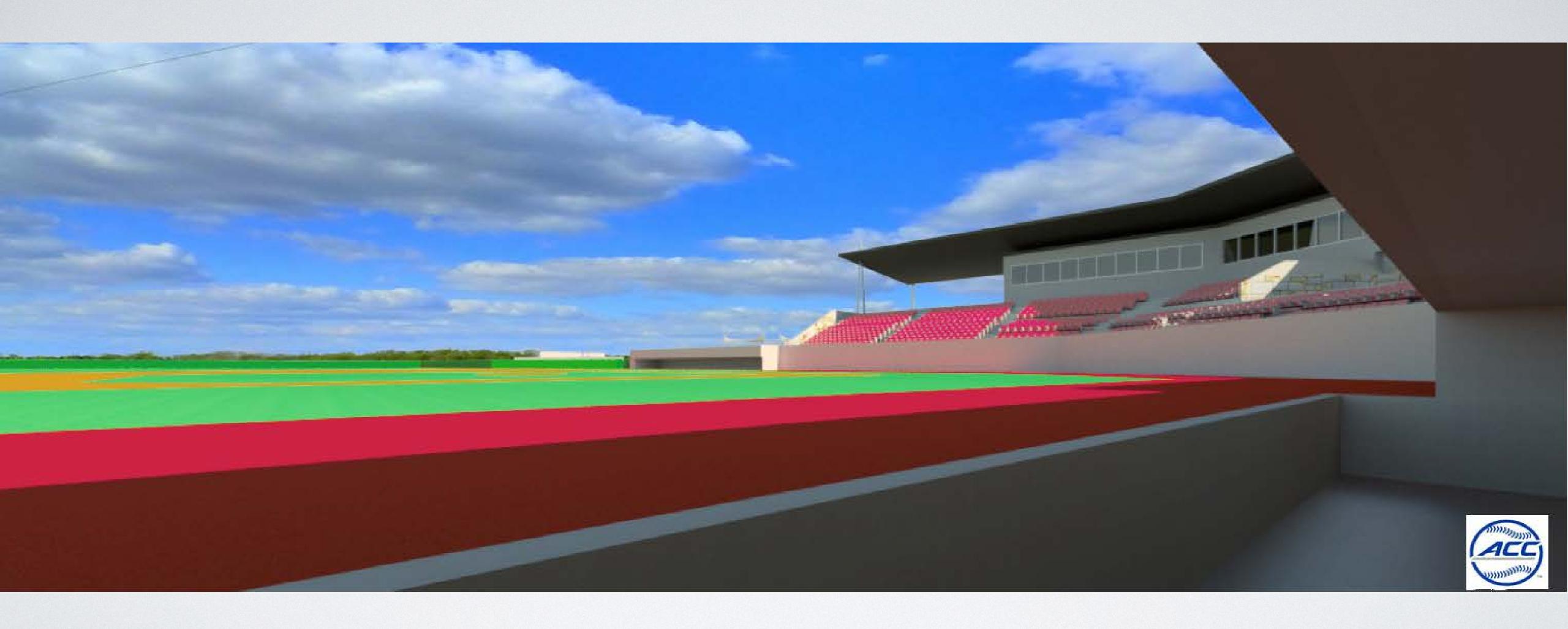
# ENGLISH FIELD concepts by Kevin Jones

























## 7. Winning

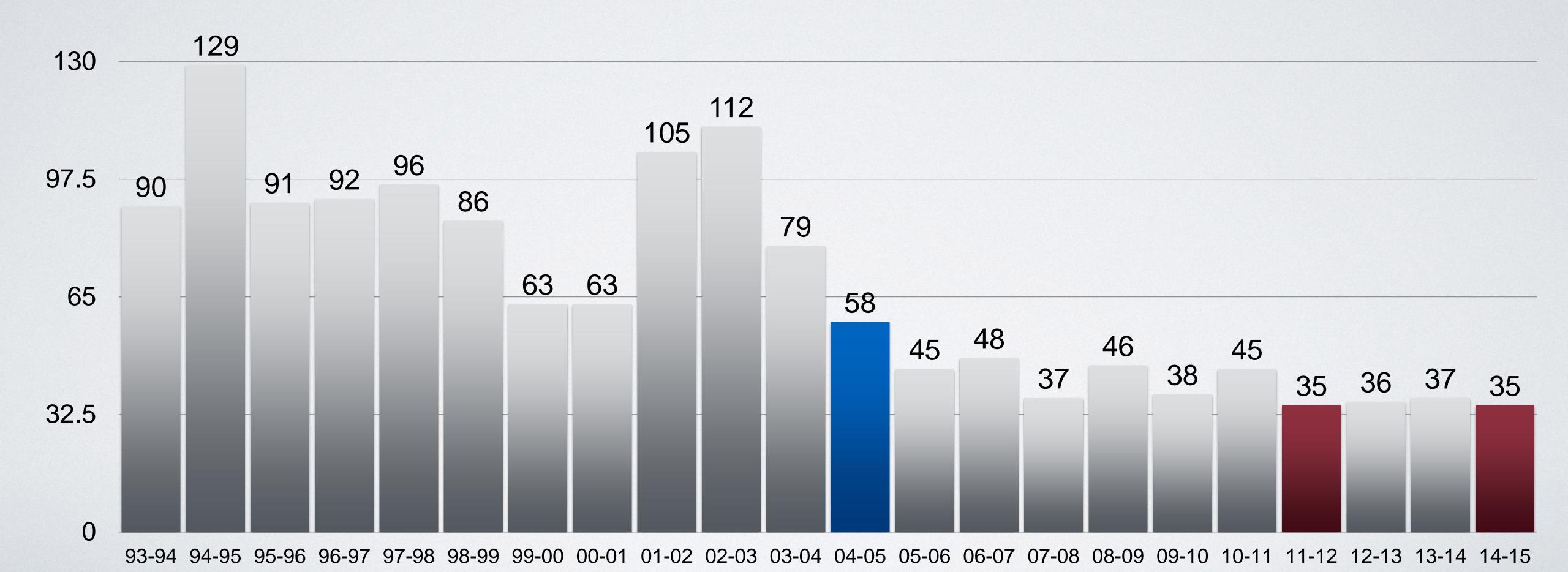
- Goal is ACC championships and becoming preeminent program in ACC in all facets
- → 35th in Director's Cup



## Learfield Sports Directors' Cup Virginia Tech 1993-2015









Football (Bowl Game) **Men's Cross Country Women's Cross Country** Men's Golf Women's Soccer Softball Men's Swimming & Diving Women's Swimming & Diving Men's Tennis Women's Tennis Men's Indoor Track & Field Women's Indoor Track & Field Men's Outdoor Track & Field Women's Outdoor Track & Field Wrestling





TEAM	HIGHEST RANKING			
Women's Soccer	2nd			
ACC Wrestling	6th			
Men's Track & Field (Indoor)	7th			
Men's Swimming & Diving	12th			
Men's Tennis	12th			
Women's Track & Field (Outdoor)	15th			
Football	17th			
Softball	24th			
Women's Cross Country	25th			
Men's Golf	26th			
Men's Track & Field (Outdoor)	26th			
Women's Tennis	30th			

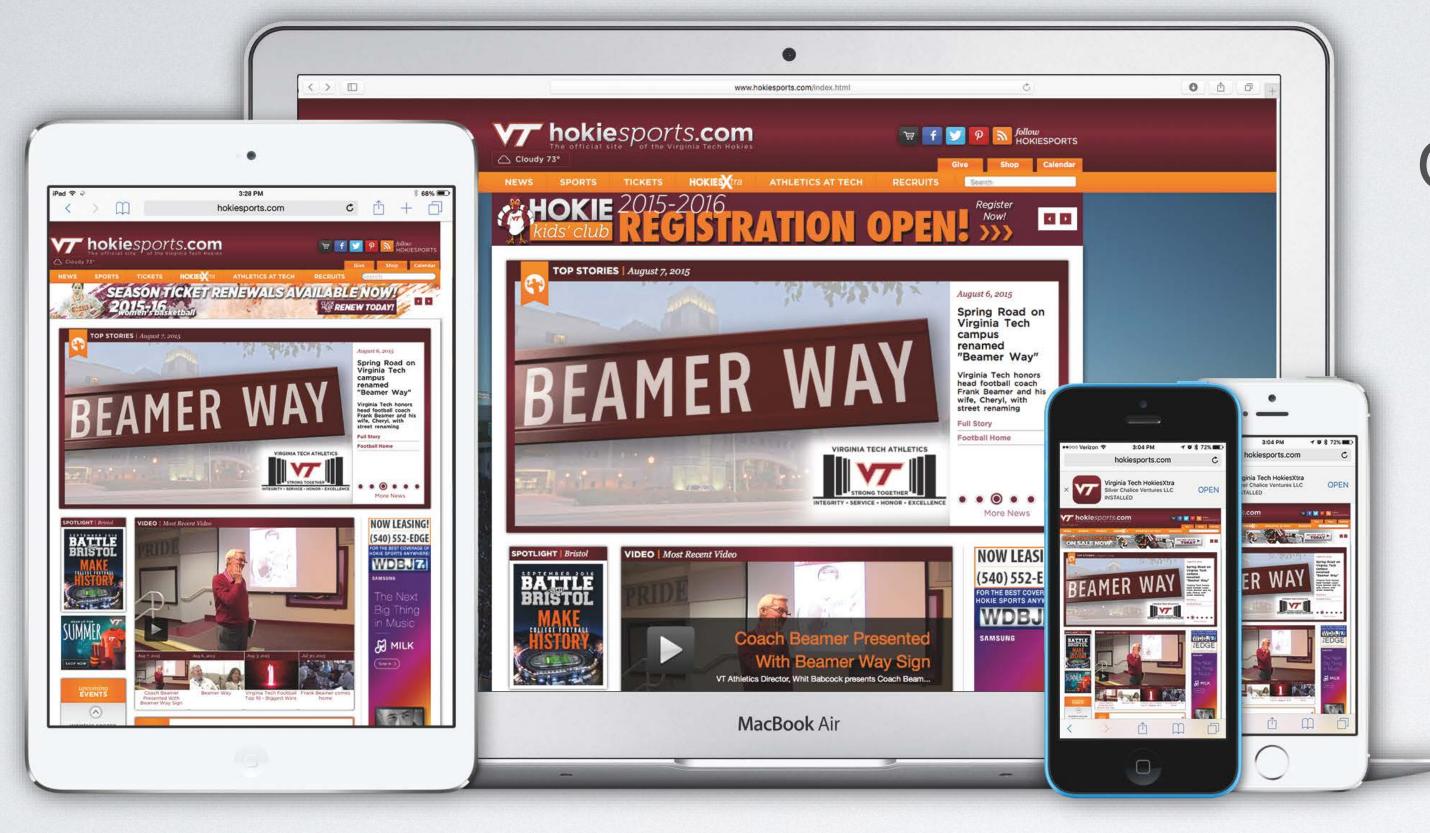
TEAM	FINAL RANKING		
ACC Wrestling	10th		
Women's Soccer	12th		
Women's Track & Field (Outdoor)	15th		
Men's Swimming & Diving	17th		
Men's Tennis	18th		
Women's Cross Country	25th		
Men's Track & Field (Indoor)	28th		
Women's Tennis	30th		



## 8. Strategic Communications

- Play some offense so-to-speak
- What is our edge? What makes us special? What differentiates Virginia Tech?
- → Tell our story throughout all mediums and multimedia platforms available; how we distribute content





Over the last year our social media accounts have seen growth

GROWTH FOLLOWERS



GROWTH 57.74%

142,167



215.71%

23,329



5.85%

175,287



26.71%

1,727

- Increased the number of videos on hokiesports.com by 68%
- Increased the number of hokiesports.com sessions to 5.9Million



- 9. Strategic Fiscal Responsibility
  - → Continue to balance the budget during these unique and transformational times in our profession and industry
  - Resource our points of emphasis; goals & objectives

#### 2014-15 Financial Summary as of June 30, 2015



			Budget	Actual
Operating Budget				
	Revenues	Self-generated revenues Salary/benefits, team travel, facilties, medical, admin fee,	\$ 54,063,443	\$ 54,244,383
	Expenses Expenses	etc Bowl budget	(53,835,807) (218,903)	(53,783,233) (218,903)
	Surplus/(Deficit		\$ 8,733	\$ 242,247
Maintenance Reserve				
	Revenues	Student Fees	\$ 1,029,928	\$ 1,063,827
	Expenses	Facility projects	(1,029,928)	(1,029,928)
	Surplus/(Deficit )	\$ -00	\$ 33,899	
Debt Budget (final year)				
	Revenues	Student Fees	\$ 531,299	\$ 5,478
	Expenses	Debt payment for various facility improvements in 1996	(529,000)	(5,290)
	Surplus/(Deficit )		\$ 2,299	\$ 188
South End Zone Stadium Project				
	Revenues	Suite, club seat, and ticket revenue	\$ 3,410,295	\$ 3,632,143
	Expenses Surplus/(Deficit	Debt, utilities, maintenance/repair	(1,771,632)	(1,915,828)
)	)		\$ 1,638,663	\$ 1,716,315



## 2014-15 Financial Summary as of June 30, 2015

			Budget	Actual
Capital Assessment I	=ee			
	Revenues	\$3 per game football ticket fee	\$ 779,772	\$ 780,381
	Expenses	Debt payment for Basketball Practice Facility	(681,938)	(681,438)
	Surplus/(Deficit )		\$ 97,834	\$ 98,943
Scholarships		Athletic Fund (\$11.4M), endowments (\$2.3M), VTS		
	Revenues	(\$225K)	\$ 12,303,930	\$ 11,688,852
	Expenses	Tuition, fees, room, and board	(12,303,930 ) \$ -00	(11,688,852 ) \$ -00
Total Combined Budgets	Revenues		\$ 75,741,686	\$ 74,984,312
	Expenses Surplus/(Deficit		(74,003,849	(72,902,268
		Indoor Practice Facility Loan Repayment	\$ 1,737,837	\$ 2,082,044



## 10. Our People, Our Culture

- → Hire to the core values and mission of the department
- Retain high performers
- Build culture of excellence
- Trust and transparency
- Spirit of Ut Prosim



## **Mission Statement**

Virginia Tech Athletics is committed to excellence, both academically and athletically, and to the personal development of our student-athletes. In the spirit of *Ut Prosim*, we stand together to serve and represent our university and community with integrity and respect.

# VIRGINIA TECH ATHLETICS





Look for intelligence and judgment, and most critically, a capacity to anticipate, to see around corners. Also look for loyalty, integrity, a high energy drive, a balanced ego, and the drive to get things done. How often do our recruitment and hiring processes tap into these attributes? More often than not, we ignore them in favor of length or resume, degrees and prior titles. A string of job descriptions a recruit held yesterday seem to be more important then who one is today, what they can contribute tomorrow, or how well their values mesh with those of the organization. You can train a bright, willing novice in the fundamentals of your business fairly readily, but it's a lot harder to train someone to have integrity, judgment, balance, and the drive to get things done.



There are four interconnected processes that define an organization's culture: employee selection, training, care and communication. Each is crucial to creating and nurturing a culture of excellence. With a rich tradition and heritage built upon creating memorable experiences, The Walt Disney Company has consistently worked to attract, develop and retain employees dedicated to this vision.

Beginning with the recruitment and selection process, some employers make the mistake of hiring primarily based on skills or personality alone. The key is to hire individuals who exhibit the desired behaviors that best align with your company's values. By strengthening the selection process, you help ensure that the people you hire will support your culture.



Once you have hired people with a propensity for excellence, your orientation process and training must reinforce your company's principles as well as impart new skills and knowledge. The way you train individuals is a reflection of your culture, and too many businesses underestimate the training their employees need to be successful. To increase engagement, you must also provide the necessary education so that employees can continually develop and excel in their roles.

Disney Institute professional development courses impart employee engagement techniques for improving corporate culture through care and communication. To continually foster a healthy culture, you must genuinely care for your workforce and find ways to express it. The methods in which you communicate with and care for your team will determine how closely they will continue to align with your desired culture.



## 11. BONUS: C.A.P.S. – Always!

- Compliance
- Academics
- Performance
- Support



# THANK YOU

GO HOKIES!

#### RESOLUTION FOR POLICY REFERRING STUDENTS EXHIBITING SUICIDAL TENDENCIES OR BEHAVIOR TO COOK COUNSELING CENTER

**WHEREAS**, House Bill 1005 previously passed during the 2008 General Assembly Session provides that the University shall provide notice under certain circumstances to the parents of a dependent student receiving mental health treatment at a state college or university student health or counseling center; and

**WHEREAS**, in 2008 the Virginia Tech Board of Visitors passed a resolution title, "Resolution for Policy to Notify Parents of Tax-Dependent Students in Instances of Psychological Emergency" to comply with House Bill 1005 and Section 23-9.2:3 of the Code of Virginia, and

**WHEREAS**, Senate Bill 1122 passed during the 2015 General Assembly Session amends and reenacts Chapter 716, Section 23-9.2:3 of the Code of Virginia, and

**WHEREAS**, Senate Bill 1122 specifically requires the university to advise students, faculty, and staff, including residence hall staff, of the proper procedures for identifying and addressing the needs of students exhibiting suicidal tendencies or behavior; and

**WHEREAS**, existing university procedures and training programs for the Care Team, Threat Assessment Team, and on-call systems are well-established and readily enacted to include a notification to Cook Counseling Center; and

**WHEREAS**, the bill also requires the university to provide for training of students, faculty and staff, where appropriate, on identifying, addressing, and referring students exhibiting suicidal tendencies or behavior; and

**WHEREAS**, the bill requires that the governing boards of each institution shall establish the policies and procedures necessary to comply with the legislation;

**THEREFORE**, be it resolved that in accordance with Senate Bill 1122, to enact Section 23-9.2:8.A of the Code of Virginia, the Board of Visitors of Virginia Tech hereby affirms as University policy that students demonstrating suicidal tendencies or behavior shall be referred to the Cook Counseling Center, under the auspices and responsibility of the Division of Student Affairs, and,

**BE IT FURTHER RESOLVED**, that the Division of Student Affairs be delegated the responsibility of developing a training program for students, including Resident Advisors, faculty, and staff, where appropriate, on identifying, addressing, and referring students exhibiting suicidal tendencies or behavior to Cook Counseling Center in accordance with the Virginia Tech SB1122 Referral Awareness Implementation Plan.

#### **RECOMMENDATION**:

That the above resolution recommending adoption of a policy to refer students exhibiting suicidal tendencies or behaviors to the Cook Counseling Center be approved and the attached referral awareness implementation plan be enacted.

#### **ATTACHMENTS:**

- Virginia Tech SB1122 Referral Awareness Implementation Plan
- 2015 Session, SB1122; Section 23-9.2:8.A
- Resolution for Policy to Notify Parents of Tax-Dependent Students in Instances of Psychological Emergency
- 2008 Session, HB1005

#### Virginia Tech SB1122 Referral Awareness Implementation Plan

Given Senate Bill 1122, enacted as Section 23-9.2:8.A, Code of Virginia and passed by the General Assembly effective July 1, 2015, Virginia Tech is required to devise and implement a full-scale referral awareness plan such that faculty, staff, and students refer students exhibiting suicidal tendencies or behavior to the Cook Counseling Center (CCC).

#### Action Steps already underway or to be taken immediately include the following:

#### **University Awareness Campaign**

- University Relations to create a "QuickLink" drop-down within <u>www.vt.edu</u> for "Emergency Services," wherein users will be pointed to contact information for police, fire, and rescue, as well as the CCC website for additional information.
- University Relations will include the BOV resolution approval and CCC referral designation in BOV postmeeting campus notice.
- DSA's Communication and Innovative Technologies team, in conjunction with University Relations, will
  produce a bi-annual campus notice regarding awareness of the requirement to refer students exhibiting
  suicidal tendencies or behavior to the Cook Counseling Center.
- University Relations will utilize search engine tools within www.vt.edu to populate the CCC referral link as a top line/level search result for 'suicide', 'suicidal student', etc.
- Update the CCC website (<u>www.ucc.vt.edu</u>) "Emergency Services" tab option to reference language specific to suicide ideation or suicidal thoughts, both demonstrated by self and/or observed in others.
- Creation of a referral "flyer" for "distressed students" and display on university digital sign boards; keep in on-going rotation

#### **Campus Collaboration**

- The CCC will continue active participation and training with the university's Care Team and Threat Assessment Team.
- The CCC will coordinate services with the Virginia Tech Police Department and Emergency Management.
- The CCC will offer trainings in suicide prevention in conjunction with Hokie Wellness, sponsored by Human Resources.

#### **Training Programs**

- CCC representatives will present to all parents/families attending first-year orientation.
- CCC and campus partners will offer suicide prevention trainings for students, faculty, and staff.
- The DSA Family E-Newsletter will notify families of CCC services biannually, including referrals for students in psychological distress.

#### 2015 SESSION

#### **CHAPTER 716**

An Act to amend and reenact § 23-9.2:8 of the Code of Virginia, relating to public institutions of higher education; students exhibiting suicidal tendencies or behavior; institutional policies and procedures for notification of the student mental health or counseling center.

[S 1122] Approved March 27, 2015

Be it enacted by the General Assembly of Virginia:

1. That § 23-9.2:8 of the Code of Virginia is amended and reenacted as follows:

§ 23-9.2:8. Student mental health policies.

A. The governing board of each public institution of higher education shall develop and implement policies that advise students, faculty, and staff, including residence hall staff, of the proper procedures for identifying and addressing the needs of students exhibiting suicidal tendencies or behavior, and provide for training, where appropriate. Such policies shall require procedures for notifying the institution's student health or counseling center for the purposes set forth in subsection C of § 23-9.2:3 when a student exhibits suicidal tendencies or behavior.

B. The governing board of each public four-year institution of higher education shall establish a written memorandum of understanding with its local community services board or behavioral health authority and with local hospitals and other local mental health facilities in order to expand the scope of services available to students seeking treatment. The memorandum shall designate a contact person to be notified when a student is involuntarily committed, or when a student is discharged from a facility and consents to such notification. The memorandum shall also provide for the inclusion of the institution in the post-discharge planning of a student who has been committed and intends to return to campus, to the extent allowable under state and federal privacy laws.

## RESOLUTION FOR POLICY TO NOTIFY PARENTS OF TAX-DEPENDENT STUDENTS IN INSTANCES OF PSYCHOLOGICAL EMERGENCY

**WHEREAS**, House Bill 1005, passed during the 2008 General Assembly Session, provides that the University shall provide notice under certain circumstances to the parents of a dependent student receiving mental health treatment at a state college or university student health or counseling center; and

WHEREAS, the bill specifically requires a parent of a dependent student to be notified when there exists a substantial likelihood that, as a result of mental illness the student will, in the near future, (i) cause serious physical harm to himself or others as evidenced by recent behavior or any others as evidenced by recent behavior or any other relevant information or (ii) suffer serious harm due to his lack of capacity to protect himself from harm or to provide for his basic human needs; and

**WHEREAS**, the bill allows such notification to be withheld if the student's treating physician or treating clinical psychologist has made a part of the student's record a written statement that, in the exercise of his professional judgement, the notification would be reasonably likely to cause substantial harm to the student or another person; and

**WHEREAS**, the bill requires that the governing boards of each institution shall establish the policies and procedures necessary to comply with the legislation;

**THEREFORE**, be it resolved that in accordance with HB 1005 and commencing the effective date thereof on July 1, 2008, the Board of Visitors of Virginia Tech hereby affirms as University policy the aforesaid parental notification requirement which shall be implemented as follows:

The Dean of Students, Schiffert Health Center or Cook Counseling Center, or designees shall contact the parents of any such dependent student as required by state law, and documenting such notification as appropriate under the circumstances.

#### **RECOMMENDATION:**

That the above resolution recommending adoption of a policy to notify parents of taxdependent students in instances of psychological emergency be approved.

**ENROLLED** 

#### 2008 SESSION

#### VIRGINIA ACTS OF ASSEMBLY — CHAPTER

An Act to amend and reenact § 23-9.2:3 of the Code of Virginia, relating to providing notice to parents of dependent student's receipt of mental health treatment on the campus of a public institution of 3 higher education. 4

Approved

TH 10057

Be it enacted by the General Assembly of Virginia:

1. That § 23-9.2:3 of the Code of Virginia is amended and reenacted as follows:

§ 23-9.2:3. Power of governing body of educational institution to establish rules and regulations; offenses occurring on property of institution; state direct student financial assistance.

A. In addition to the powers now enjoyed by it, the board of visitors or other governing body of

every educational institution shall have the power:

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- 1. To establish rules and regulations for the acceptance and assistance of students except that (i) individuals who have failed to meet the federal requirement to register for the selective service shall not be eligible to receive any state direct student assistance; (ii) the accreditation status of a Virginia public high school shall not be considered in making admissions determinations for students who have earned a diploma pursuant to the requirements established by the Board of Education; and (iii) the governing boards of the four-year institutions shall establish policies providing for the admission of certain graduates of Virginia community colleges as set forth in § 23-9.2:3.02.
  - 2. To establish rules and regulations for the conduct of students while attending such institution.
- 3. To establish programs, in cooperation with the State Council of Higher Education and the Office of the Attorney General, to promote compliance among students with the Commonwealth's laws relating to the use of alcoholic beverages.
- 4. To establish rules and regulations for the rescission or restriction of financial aid, within the discretionary authority provided to the institution by federal or state law and regulations, and the suspension and dismissal of students who fail or refuse to abide by such rules and regulations for the conduct of students.
- 5. To establish rules and regulations for the employment of professors, teachers, instructors and all other employees and provide for their dismissal for failure to abide by such rules and regulations.
  - 6. To provide parking and traffic rules and regulations on property owned by such institution.
- 7. To establish guidelines for the initiation or induction into any social fraternity or sorority in accordance with § 18.2-56.
- 8. To establish programs, in cooperation with the State Council of Higher Education for Virginia and the Office of the Attorney General, to promote the awareness and prevention of sexual crimes committed upon students.
- B. Upon receipt of an appropriate resolution of the board of visitors or other governing body of an educational institution, the governing body of a political subdivision which is contiguous to the institution shall enforce state statutes and local ordinances with respect to offenses occurring on the property of the institution.

The governing bodies of the public institutions of higher education shall assist the State Council of

Higher Education in enforcing the provisions related to eligibility for financial aid.

C. Notwithstanding any other provision of state law, the board of visitors or other governing body of every public institution of higher education in Virginia shall establish policies and procedures requiring the notification of the parent of a dependent student when such student receives mental health treatment at the institution's student health or counseling center and such treatment becomes part of the student's educational record in accordance with the federal Health Insurance Portability and Accountability Act (42 U.S.C. § 1320d et seq.) and may be disclosed without prior consent as authorized by the federal Family Educational Rights and Privacy Act (20 U.S.C. § 1232g) and related regulations (34 C.F.R. Part 99). Such notification shall only be required if it is determined that there exists a substantial likelihood that, as a result of mental illness the student will, in the near future, (i) cause serious physical harm to himself or others as evidenced by recent behavior or any other relevant information or (ii) suffer serious harm due to his lack of capacity to protect himself from harm or to provide for his basic human needs. However, notification may be withheld if the student's treating physician or treating clinical psychologist has made a part of the student's record a written statement that, in the exercise of his professional judgment, the notification would be reasonably likely to cause substantial harm to the student or another person. No public institution of higher education or employee of a public institution of higher education

#### 2 of 2

making a disclosure pursuant to this subsection shall be civilly liable for any harm resulting from such disclosure unless such disclosure constitutes gross negligence or willful misconduct by the institution or its employees.

G D. In order to improve the quality of the Commonwealth's work force and educational programs, the governing bodies of the public institutions of higher education shall establish programs to seek to ensure that all graduates have the technology skills necessary to compete in the 21st Century and, particularly, that all students matriculating in teacher-training programs receive instruction in the effective use of educational technology.

#### RESOLUTION OF APPRECIATION HONORING JOHN C. LEE IV

**WHEREAS,** Mr. John C. Lee IV was appointed by Governor Bob McDonnel to Virginia Polytechnic Institute and State University's Board of Visitors on July 11, 2011; and,

**WHEREAS,** Mr. Lee served as a member of the Academic Affairs Committee, member of the Finance and Audit Committee, member of the Student Affairs and Athletics Committee, member and chair of the Research Committee, and member of the Executive Committee; and.

**WHEREAS**, Mr. Lee has demonstrated his further commitment to advance the future of Virginia Tech by serving on the Board of the Virginia Tech Foundation, the search committee for the university's 16th president, and Virginia Tech's Science and Engineering Regional Growth Enterprise (VT-SERGE); and,

**WHEREAS**, Mr. Lee has worked to support innovation, economic development and the arts in the Commonwealth through his service on the boards of the Wolf Trap Foundation for Performing Arts, the Economic Club of Washington DC, and the Northern Virginia Technology Council; and,

**WHEREAS**, Mr. Lee, over the course of more than 30 years, established and led Lee Technologies, a Virginia-based company that advanced the Commonwealth's economy and was nationally renowned for its technological expertise and customer service across a broad range of industries; and,

**WHEREAS**, Mr. Lee is well known for his energetic involvement as a community and statewide business leader, along with his numerous philanthropic and charitable activities; and,

**WHEREAS**, the members of the Board have thoroughly enjoyed getting to know John and his wife, Cynthia, and have valued their company at Board meetings, football games, and other university events;

**WHEREAS,** Mr. Lee has distinguished himself during his term on the Board, upholding the highest standards of integrity, service and collegiality;

**NOW, THEREFORE, BE IT RESOLVED,** that the members of the Board of Visitors of Virginia Polytechnic Institute and State University do hereby extend their sincere appreciation to John C. Lee IV for his outstanding loyalty and devoted service, and for his faithful dedication to the university and its missions.

#### **RECOMMENDATION:**

That the above resolution recognizing John C. Lee IV for his service as a member of the Board of Visitors be approved.

#### RESOLUTION OF APPRECIATION HONORING CORDEL L. FAULK

**WHEREAS,** Mr. Cordel L. Faulk was appointed by Governor Bob McDonnell to Virginia Polytechnic and State University's Board of Visitors on July 1, 2011; and,

**WHEREAS**, Mr. Faulk is a loyal and dedicated alumnus, and a member of the Class of 1998, having earned a Bachelor of Arts degree in Political Science; and,

**WHEREAS**, Mr. Faulk, while enrolled at Virginia Tech, participated in the University Honors Program, and in the ensuing years has served as an instructor and advisor for that program; and.

**WHEREAS**, Mr. Faulk during his term on the Board served as a member of the Academic Affairs Committee, member and chair of the Student Affairs and Athletics Committee, member of the Executive Committee, and a member of the ad hoc committee appointed by the Rector to revise the Board's By-laws, draft the first Code of Ethics for the Board, and draft a set of qualifications for Board members for submission to the Governor; and,

WHEREAS, Mr. Faulk has demonstrated his further commitment to the development and future of Virginia Tech, serving on the University Honors Program Campaign Steering Committee and the Regional Campaign Committee in Richmond for the Campaign for Virginia Tech, and the College of Liberal Arts and Human Sciences Alumni Advisory Board; and,

**WHEREAS,** Mr. Faulk serves as a dedicated philanthropic leader for the university, recognized through his membership in the Legacy Society and the Hokie Club; and,

**WHEREAS**, the members of the Board have thoroughly enjoyed getting to know Cordel and have valued his company at Board meetings, football games, and other university events;

**WHEREAS,** Mr. Faulk has distinguished himself during his term on the Board, upholding the highest standards of integrity and service;

**NOW, THEREFORE, BE IT RESOLVED,** that the members of the Board of Visitors of Virginia Polytechnic Institute and State University do hereby extend their sincere appreciation to Cordel L. Faulk for his outstanding loyalty and devoted service, and for his faithful dedication to the university and its missions.

#### **RECOMMENDATION:**

That the above resolution recognizing Cordel L. Faulk for his service as a member of the Board of Visitors be approved.

### RESOLUTION TO REVISE THE BY-LAWS OF THE VIRGINIA TECH BOARD OF VISITORS

**WHEREAS**, legislation passed by the 2015 Virginia General Assembly and signed into law by Governor McAuliffe enumerates several specific provisions pertaining to the criteria and process for the removal of board members that the boards of visitors are required to incorporate in their by-laws; and

**WHEREAS**, the By-laws of the Virginia Tech Board of Visitors state that by statute, the Board is charged with the care, preservation, and improvement of university property and with the protection and safety of students, faculty, and staff on the property; and due to the growing body of legislation addressing campus safety, it is desirable to incorporate that responsibility formally within the charge of the Board's Buildings and Grounds Committee;

**NOW, THEREFORE, BE IT RESOLVED** that the Board of Visitors of Virginia Polytechnic Institute and State University hereby approves the proposed revisions to the "By-laws of the Board of Visitors of Virginia Polytechnic Institute and State University," as stated in the attached addendum, effective immediately.

#### **RECOMMENDATION:**

That the proposed revisions to the By-laws of the Virginia Tech Board of Visitors be approved, effective immediately.

## ADDENDUM TO THE RESOLUTION TO REVISE THE BY-LAWS OF THE VIRGINIA TECH BOARD OF VISITORS

August 31, 2015

#### The Board of Visitors Bylaws

#### **Article I**

#### **Section 6d. Buildings and Grounds Committee**

#### **Current:**

The Buildings and Grounds Committee assists the Board in its responsibility for maintenance and development of the physical plant, land use, and its review of capital outlay requests. The university employee designated as the University Building Official when serving in that capacity shall organizationally report directly and exclusively to the Board of Visitors through the Buildings and Grounds Committee.

#### Proposed:

The Buildings and Grounds Committee assists the Board in its responsibility for campus safety and security, maintenance and development of the physical plant, land use, and its review of capital outlay requests. The university employee designated as the University Building Official when serving in that capacity shall organizationally report directly and exclusively to the Board of Visitors through the Buildings and Grounds Committee.

#### **Article VI. Miscellaneous Provisions**

#### Section 2. Removal of Board Members

#### **Current:**

The members of the Board of Visitors are protected by Virginia law from being removed without appropriate reasons and by an unfair process. If any Visitor fails to perform the duties of his office for one year without good cause shown to the Board, the Board shall, at the next meeting after the end of such year, cause the fact of such failure to be recorded in the minutes of their proceedings, and certify the same to the Governor, and the office of such Visitor shall thereupon be vacant (§ 23-120, Code of Virginia, as amended). Dismissal of a Board member for cause will be pursued in accordance with Virginia Code § 2.2-108 and § 24.2-231, as amended, which provides the process for removal of a Board member from office for malfeasance, misfeasance, incompetence, gross neglect of duty, or conviction of a felony.

#### **Proposed**:

The members of the Board of Visitors are protected by Virginia law from being removed without appropriate reasons and by an unfair process. If any Visitor fails to attend the meetings of the board for one full year without sufficient cause and/or perform the duties of his office for one year without good cause as determined by a majority vote of the Board, the remaining members of the Board shall record such failure in the minutes at its next meeting and notify the Governor, and the office of such member shall be vacated. (§ 23-120 and § 23-2.06, Code of Virginia, as amended).

If any Visitor fails to attend the educational programs required by Code of Virginia § 23-9.14:1 in his/her first two years of membership without sufficient cause, as determined by a majority vote of the Board, the remaining members of the Board shall record such failure in the minutes at its next meeting and notify the Governor, and the office of such member shall be vacated. (§ 23-2.06, Code of Virginia, as amended).

Dismissal of a Board member for cause will be pursued in accordance with Virginia Code § 2.2-108 and § 24.2-231, as amended, which provides the process for removal of a Board member from office for malfeasance, misfeasance, incompetence, gross neglect of duty, or conviction of a felony.

#### **Section 5. Educational Requirement**

#### **Current:**

Educational programs for boards of visitors are required by statute to be delivered annually by the State Council of Higher Education for Virginia (SCHEV). New board members must participate in programs offered at least once during their first two years on the board.

#### Proposed:

Educational programs for boards of visitors are required by statute to be delivered annually by the State Council of Higher Education for Virginia (SCHEV). New board members must participate in programs offered at least once during their first two years on the board. (See Article VI, Section 2.)

#### RESEARCH AND DEVELOPMENT DISCLOSURE REPORT May 15, 2015 through August 14, 2015

Reason for Conflict	External Entity	Owner(s)	Principal	Co - P.I.'s	College/	Period of	Award	Project Description
			Investigator		Department	Performance	Amount	
Faculty Owned Business	Electrical Distribution Design (EDD)	Robert Broadwater	Robert Broadwater	TBD	Electrical & Computer Engineering	Through 6-30-16	\$750,000 Master Agreement	All tasks under this agreement will relate to developing electrical distribution technology related to military use.
		James Torgersen			Athletics		·	·
Faculty Owned Business	Cell Free Bionnovations, Inc.	Yi Heng(Percival) Zhang	Mary Leigh Wolfe	Percival Zhang	Biological Systems Engineering	TBD	\$48,843	Cell Free has received a STTR Phase 1 award from the US Department of Energy. Virginia Tech will receive a subcontract to perform work involving protein engineering.



#### Governing Board Certification Form Academic Year 2015-16

As Chairman of the Governing Board at <u>Virginia Polytechnic</u> <u>Institute & State University</u>, I attest that:

- 1) Responsibility for the administration of the athletics program has been delegated to the Chief Executive Officer of the Institution.
- 2) The Chief Executive Officer has the mandate and support of the board to operate a program of integrity in full compliance with NCAA, ACC and all other relevant rules and regulations.
- 3) The Chief Executive Officer, in consultation with the Faculty Athletics Representative and the Athletics Director, determines how the institutional vote shall be cast on issues of athletics policy presented to the NCAA and the ACC.

Date Presente	ed to the Governing Board:	
Signed:		
Signed:	(Chairman of the Governing Board)	
Signed:		
	(CFO of Member Institution)	

Please return completed form before <u>October 16, 2015</u> to:

Commissioner John D. Swofford Atlantic Coast Conference 4512 Weybridge Lane Greensboro, NC 27407

### RESOLUTION ON NAMING FLOOR WITHIN NEW CORPS OF CADETS RESIDENCE HALL FOR COLONEL WESLEY FOX

WHEREAS, Virginia Tech is currently building two new residence Halls to house members of the Virginia Tech Corps of Cadets which will replace four current dormitories: Rasche Hall, Brodie Hall, Monteith Hall and Thomas Hall; and

**WHEREAS**, of the millions of men and women who have served in the U.S. armed forces throughout history, only about 3,400 have received the Medal of Honor, America's highest award for valor, particularly significant considering that a little more than half of the nation's medals were awarded during the Civil War, before Virginia Tech's founding, and among those few are several Virginia Tech alumni; and

**WHEREAS**, Colonel Wesley Fox dedicated 43 years of his life to service in the uniform of the United States Marine Corps, retiring only after reaching the mandatory retirement age of 62, and he had earned the unique distinction of working his way through each and every Marine Corps rank, from private to colonel: and

**WHEREAS,** while a young first lieutenant and company commander, Wesley Fox was awarded the Medal of Honor by President Nixon on March 2, 1973, for action in Quang Tri Province, Republic of Vietnam, on February 22, 1968; and

**WHEREAS**, after retirement from active duty, Colonel Fox wore the uniform for another eight years as a Deputy Commandant of Cadets. He was awarded a lifetime honorary membership in the Virginia Tech Alumni Association through official action by the association's board of directors in November 2011;

**NOW, THEREFORE, BE IT RESOLVED**, that in acknowledgement of the service of Colonel Wesley Fox to Virginia Tech and the nation, and to honor his legacy to generations of cadets, a floor in one of the new cadet residence halls be named in his honor with a plaque erected honoring him on the designated named floor.

#### **RECOMMENDATION:**

That the above resolution naming a floor in the new Virginia Tech Corps of Cadets residence hall for Medal of Honor recipient Colonel Wesley Fox be approved.

### RESOLUTION ON NAMING THE VIRGINIA TECH BASEBALL CENTER FOR JAMES C. WEAVER

**WHEREAS**, James C. Weaver served with integrity as Virginia Tech's Director of Athletics for sixteen years, leaving an indelible impact upon the athletic department, its student-athletes, coaches, and staff, and upon Virginia Tech as an institution; and

**WHEREAS**, Jim Weaver's astute financial management, emphasis on facilities, and strong oversight in the areas of NCAA compliance set the groundwork for the school's invitation into the ACC for all sports starting in 2004; and

**WHEREAS**, under Jim Weaver's leadership, the Department of Athletics committed nearly \$200 million toward facilities, including the building of the south end zone at Lane Stadium and later the expansion of the west side of the stadium. He also oversaw the building of the Hahn Hurst Basketball Practice Center, the new football locker room, the new baseball hitting facility and many other projects and renovations; and

**WHEREAS**, Virginia Tech won 16 ACC team championships during Jim Weaver's tenure; and

WHEREAS, Jim Weaver was recognized nationally for his accomplishments, including the prestigious John L. Toner Award presented to him in 2009 by the National Football Foundation and College Football Hall of Fame. The award is given each year to a director of athletics who has demonstrated superior administrative abilities and shown outstanding dedication to college athletics and particularly college football. He also was named the AD of the Year by the National Association of Collegiate Directors of Athletics (NACDA) in May of 2014; and

**WHEREAS**, in recognition of Jim Weaver's unparalleled legacy as Athletic Director, the Department of Athletics seeks to name the Virginia Tech Baseball Center in his honor;

**NOW, THEREFORE, BE IT RESOLVED** that to commemorate Jim Weaver's contributions, the Virginia Tech baseball center henceforth will be named the James C. Weaver Baseball Center.

#### **RECOMMENDATION:**

That the above resolution naming the James C. Weaver Baseball Center be approved.

#### Summary

#### **Emeritus Faculty Resolutions (8)**

#### **August 31, 2015**

#### Administration

Sharon L. McCloskey Senior Associate Athletics Director Emerita

#### **College of Architecture and Urban Studies**

Wilma Dunaway Professor Emerita of Government and International Affairs

in the School of Public and International Affairs

C. Theodore Koebel Professor Emeritus of Urban Affairs and Planning

#### College of Liberal Arts and Human Sciences

C. Vernon Burnsed Professor Emeritus of Music

Elizabeth Fine Professor Emerita of Humanities

Paul Sorrentino Professor Emeritus of English

#### Pamplin College of Business

Robert M. Brown Professor Emeritus of Accounting and Information Systems

#### <u>Virginia Maryland Regional College of Veterinary Medicine</u>

Gregory Troy Professor Emeritus of Small Animal Internal Medicine

**WHEREAS,** beginning in 1984 and continuing for 31 years, Sharon L. McCloskey faithfully served Virginia Tech as an administrative faculty member in the Department of Athletics; and

**WHEREAS**, with dedication, she served as support and senior advisor to three directors of athletics: Dave Braine, Jim Weaver, and Whit Babcock; and

**WHEREAS,** in 1988, she became the first woman in college athletics (Division I) to hold the position of recruiting coordinator, and was named the senior woman administrator; and

**WHEREAS,** in 1992, she became an assistant athletics director, and in 1995, moved into the role of senior associate athletics director; and

**WHEREAS,** following Dave Braine's departure in 1997, she was the interim athletic director until the university hired Jim Weaver, and then again following Jim Weaver's retirement until the university hired Whit Babcock in 2014; and

**WHEREAS,** she has served on a number of Atlantic Coast Conference-related committees, including all women's basketball committees and the women's soccer committee:

**NOW, THEREFORE, BE IT RESOLVED,** that the Board of Visitors recognizes Sharon L. McCloskey for her distinguished service to the university with the title of Senior Associate Athletics Director Emerita.

#### **RECOMMENDATION:**

That the above resolution recommending Sharon L. McCloskey for emerita status be approved.

**WHEREAS**, beginning in 1999 and continuing for 16 years, Wilma Dunaway, Ph.D. faithfully served Virginia Tech as a faculty member in first, the Department of Sociology in the College of Arts and Sciences and, second, in the School of Public and International Affairs in the College of Architecture and Urban Studies; and

**WHEREAS,** with dedication and passion, she taught and lectured in undergraduate and graduate courses; and

**WHEREAS**, she directed more than 35 graduate students, and served on multiple master's and doctoral committees in several university programs; and

**WHEREAS**, she was a key innovator in the use of new technology for instructional and outreach activities to advance economic development across the state, nation, and world; and

**WHEREAS,** she won numerous prestigious college, campus, state, national, and international awards for research, service, and teaching, bringing international visibility to Virginia Tech through her scholarship and service focused on questions of racism, civil rights, economic access and opportunity;

**WHEREAS,** she authored or co-authored or edited dozens of refereed journal articles, seven books, and multiple book chapters, and reviews that challenged and advanced theories such as world systems analysis and feminism; and

**WHEREAS,** she served on scholarly journal editorial boards, worked with local community organizations, and assisted local, state, tribal and other government agencies; and

**WHEREAS**, she provided many years of distinguished contributions to her department and school, two colleges, and the university through dedicated service on numerous committees:

**NOW, THEREFORE, BE IT RESOLVED,** that the Board of Visitors recognizes Wilma Dunaway, Ph.D. for her distinguished service to the university with the title of Professor Emerita of Government and International Affairs in the School of Public and International Affairs.

#### **RECOMMENDATION:**

That the above resolution recommending Wilma Dunaway, Ph.D. for emerita status be approved.

**WHEREAS**, beginning in 1990 and continuing for 25 years, C. Theodore Koebel, Ph.D. faithfully served Virginia Tech as a professor of urban affairs and planning in the School of Public and International Affairs, and as a principle faculty member in the Myers-Lawson School of Construction, both in the College of Architecture and Urban Studies; and

**WHEREAS**, he served Virginia Tech in a leadership capacity as director of the Virginia Center for Housing Research (VCHR) from 1990-2005, chair of the Urban Affairs and Planning Program from 2005-2010, and acting director of the Virginia Tech Institute for Metropolitan Research in 2001; and

**WHEREAS**, as an outcome of his leadership, the Virginia Center for Housing Research (VCHR) is widely recognized as a consistent, independent, and objective source of data on housing conditions and needs in Virginia. As founding director of the VCHR, Dr. Koebel developed a research portfolio and interdisciplinary research team that helped to establish Virginia Tech as one of the nation's leaders in housing policy research. His work on building technology and innovation in homebuilding was seminal in shaping federal housing policy. Koebel is known as the "father of affordable housing research" across the Commonwealth of Virginia; and

**WHEREAS**, he pioneered methods of analyzing housing markets and housing affordability gaps that are now considered standard tools of the trade, and made important research contributions to the field in the area of nonprofit housing, innovation in homebuilding, manufactured housing, the supply-side of housing markets, and the demographics of housing demand; and

**WHEREAS**, he helped to bring the *Housing Policy Debate* journal to its current home at Virginia Tech, served on the editorial boards of a number of internationally-regarded academic journals in the field of urban affairs and planning; and

**WHEREAS**, he ably served Community Housing Partners (CHP) for 14 years, as a collaborator, mentor, board member, and vice chair, and as board chair for eight years from 2000-2008. Dr. Koebel provided the leadership and real estate market knowledge that allowed CHP to diversify and expand, to become recognized as one of the top 50 affordable housing providers in the country, and to receive more than 30 national and state awards of excellence; and

**WHEREAS**, he devoted his academic career to teaching, advising and mentoring students. His work at VCHR sponsored the education of more than 85 undergraduate and graduate students across Virginia and outside of the Commonwealth and the nation. As a result of this support, the world of highly trained individuals who are working to improve affordable housing grows annually;

**NOW, THEREFORE, BE IT RESOLVED,** that the Board of Visitors recognizes C. Theodore Koebel, Ph.D. for his distinguished service to the university with the title Professor Emeritus of Urban Affairs and Planning.

#### **RECOMMENDATION:**

That the above resolution recommending C. Theodore Koebel, Ph.D. for emeritus status be approved.

**WHEREAS,** beginning in 1978 and continuing for 37 years, C. Vernon Burnsed, Ph.D. faithfully served Virginia Tech as a faculty member in the Department of Music in the College of Liberal Arts and Human Sciences; and

**WHEREAS**, he made significant contributions to the understanding of music education through his scholarship and research in the area of music education, with significant publications in the field, including early childhood music education, music perception, and musical aesthetics; and

**WHEREAS,** he ably served the music profession as a frequent presenter at state, national and international music conferences, as a longtime editor of the Virginia Music Teachers Association journal, in addition to many performances throughout the region as a jazz pianist; and

**WHEREAS,** he supported the engagement mission of the university as the founding director of the Virginia Tech String Project; and

**WHEREAS,** with dedication and passion, he taught a variety of undergraduate courses across the music curriculum, particularly music education courses, placing strong emphasis on standards and student learning; and

**WHEREAS**, he advised numerous students including the supervision of student teachers, helping them develop successful careers in both public school music and professional music settings; and

**WHEREAS**, he provided many years of distinguished contributions to the department, college, and university through dedicated service on numerous committees;

**NOW, THEREFORE, BE IT RESOLVED,** that the Board of Visitors recognizes C. Vernon Burnsed, Ph.D. for his distinguished service to the university with the title Professor Emeritus of Music.

#### **RECOMMENDATION:**

That the above resolution recommending C. Vernon Burnsed, Ph.D., for emeritus status be approved.

**WHEREAS**, Elizabeth Fine, Ph.D., has served as a member of the Virginia Tech faculty since 1979; and

**WHEREAS**, Elizabeth Fine served as assistant professor in the Center for Programs in the Humanities and the Department of Communication Studies from 1979-1985, and associate professor from 1985-1995; and

**WHEREAS**, Elizabeth Fine served as coordinator of the Appalachian Studies Program from 1993-1999; director of the Humanities Program in the Center for Interdisciplinary Studies from 1999-2003; and resumed leadership of the Humanities Program in 2007; and

**WHEREAS**, Elizabeth Fine served as professor and the inaugural chair of the Department of Interdisciplinary Studies from 2003-2007; and

**WHEREAS,** her first book, The Folklore Text: From Performance to Print earned awards when it was published and remains one of the most influential works in its field; and

**WHEREAS,** her second book, Soulstepping, documented the forms, meanings, and transformations of African American step traditions; and

**WHEREAS**, she has successfully led and sustained efforts to preserve the physical structure of Solitude, the university's oldest building, along with the log cabin adjoining it; and

**WHEREAS,** her work as a public scholar extends to creating film and video documentaries, including Well-Known Stranger: Howard Finster's Workout (1987), showing at The American Visionary Art Museum in Baltimore through August 30, 2015; and

**WHEREAS,** as co-creator and co-director of the Master of Arts Program in Material Culture and Public Humanities, she worked to develop the curriculum, set policies and procedures, recruit and advise students, design and teach new courses, and mentor the next generation of museum, non-profit, public humanities professionals; and

**WHEREAS,** having worked tirelessly for the success of the M.A. degree, she leaves a legacy of a graduate program dedicated to the creation and dissemination of humanities and arts scholarship designed to reach a wide public; and

**WHEREAS,** the Department of Religion and Culture, along with all the other programs and departments with which she has been affiliated, have drawn strength from her scholarly expertise, administrative acumen, pedagogical gifts, good humor, and quiet wisdom;

**NOW, THEREFORE, BE IT RESOLVED,** that the Board of Visitors recognize Elizabeth Fine, Ph.D. with the title Professor Emerita of Humanities.

#### **RECOMMENDATION:**

That the Board of Visitors approve the resolution appointing Elizabeth Fine, Ph.D., to Professor Emerita of Religion and Culture.

**WHEREAS,** beginning in 1978 and continuing for 36 years, Paul Sorrentino, Ph.D. faithfully served Virginia Tech as a faculty member in the Department of English in the College of Liberal Arts & Human Sciences; and

**WHEREAS**, he made significant contributions to the field of American literature as the acknowledged world expert on the author Stephen Crane; and

**WHEREAS,** he authored seven books and over 40 refereed journal articles, book chapters, and reviews; and

**WHEREAS**, he established a remarkable record as an outstanding classroom teacher, winning numerous awards on campus, including the Wine and Alumni Awards, and also beyond the campus, receiving the Commonwealth of Virginia Outstanding Faculty Award and the Outstanding Teacher Award from the South Atlantic Association of Departments of English; and

**WHEREAS,** with dedication, he taught a wide variety of undergraduate and graduate courses ranging across the English curriculum, placing strong emphasis on standards and student learning; and

**WHEREAS**, he advised students on master's theses and helped them develop successful careers in a variety of settings; and

**WHEREAS,** he received numerous grants, including several from the National Endowment for the Humanities, and was named to a Guggenheim Fellowship; and

**WHEREAS**, he provided many years of distinguished contributions to the department, college, and university through dedicated service on numerous committees;

**NOW, THEREFORE, BE IT RESOLVED,** that the Board of Visitors recognizes Paul Sorrentino, Ph.D. for his distinguished service to the university with the title of Professor Emeritus of English.

#### **RECOMMENDATION:**

That the above resolution recommending Paul Sorrentino for emeritus status be approved.

**WHEREAS,** beginning in 1977 and continuing for 38 years, Robert M. Brown, Ph.D. faithfully served Virginia Tech as a faculty member in the Department of Accounting and Information Systems in the Pamplin College of Business; and

**WHEREAS**, as a member of the faculty in the Department of Accounting and Information Systems, and in its predecessor, the Department of Accounting, he was a dedicated teacher of a large number of courses at the undergraduate and graduate levels; and

**WHEREAS,** he directed 15 doctoral students, and served on over 44 doctoral committees at Virginia Tech; and

WHEREAS, he authored or co-authored over 39 refereed journal articles; and

**WHEREAS,** he has received more than four teaching awards in 2003, 1988, 1980, and 1981; and

**WHEREAS**, he served as The Association to Advance Collegiate Schools of Business (AACSB) Accreditation Team Leader for more than 10 accounting programs; and

**WHEREAS,** he served on important university, college, and departmental committees; and

**WHEREAS**, he provided many years of distinguished contributions to the department, the college, and the university through dedicated service on numerous commissions and committees:

**NOW, THEREFORE, BE IT RESOLVED,** that the Board of Visitors recognizes Robert M. Brown, Ph.D. for his distinguished service to the university with the title of Professor Emeritus of Accounting and Information Systems.

#### **RECOMMENDATION:**

That the above resolution recommending Robert M. Brown, Ph.D. for emeritus status be approved.

**WHEREAS,** beginning in 1987 and continuing for 28 years, Dr. Gregory Clem Troy, D.V.M. faithfully served Virginia Tech as a faculty member in the Department of Small Animal Clinical Science in the Virginia Maryland Regional College of Veterinary Medicine; and

**WHEREAS,** he graduated with honors from Auburn University in 1975, received advanced post graduate training at Texas A & M University where he received an M.S. in 1982, and completed a small animal internal medicine residency in 1979; and

**WHEREAS**, he become a Diplomate of the American College of Veterinary Internal Medicine in 1982; and

**WHEREAS**, he made significant contributions to Virginia Tech by serving as hospital director of the Veterinary Teaching Hospital from 1987 to 1993 and again in 1996; and

**WHEREAS**, he was appointed the Dr. and Mrs. Dorsey Taylor Mahin Endowed Professorship in 2007; and

**WHEREAS**, he supported scientific research and advanced the veterinary profession in the area of infectious disease and urinary track disorders; and

**WHEREAS,** with unparalleled dedication, he taught a wide variety of courses in the professional and graduate curriculum in Virginia Maryland Regional College of Veterinary Medicine and won many teaching awards; and

**WHEREAS**, he was responsible for the development and implementation of the Community Practice Clerkship in the Veterinary Teaching Hospital which is a fundamental component of the training of students as small animal veterinarians; and

**WHEREAS**, he advised numerous students, interns and residents helping them develop successful careers in academic and private sector veterinary practice; and

**WHEREAS**, he provided many years of distinguished contributions to the department, college, and university through dedicated service on numerous committees;

**NOW, THEREFORE, BE IT RESOLVED,** that the Board of Visitors recognizes Dr. Gregory Clem Troy for his distinguished service to the university with the title Professor Emeritus of Small Animal Internal Medicine.

#### **RECOMMENDATION:**

That the above resolution recommending Dr. Gregory Clem Troy for emeritus status be approved.

#### **Summary**

#### New Appointments to Endowed Chairs, Professorships, or Fellowships (3)

#### August 31, 2015

#### **College of Engineering**

Christopher Williams EMC Senior Faculty Fellow in Advanced

Manufacturing Systems

#### Pamplin College of Business

Dipankar Chakravarti Sonny Merryman Inc. Professorship in Business

David Townsend Richard E. Sorensen Junior Faculty Fellowship

in Entrepreneurship

## ENDOWED PROFESSORSHIP Electro-Mechanical Corporation (EMC) Senior Faculty Fellowship in Advanced Manufacturing Systems

The EMC Senior Faculty Fellowship in Advanced Manufacturing Systems was established by the generous gift of \$500,000 by Electro-Mechanical Corporation. The fellowship recognizes exceptional research, scholarship and outreach in the field of Advanced Manufacturing. Dean Richard Benson has nominated Dr. Christopher Williams as the EMC Senior Faculty Fellow in Advanced Manufacturing Systems", based on the recommendations of the Department of Mechanical Engineering, and the College of Engineering's Honorifics Committee.

Dr. Christopher Williams has excelled at scholarship, teaching, service, and outreach at Virginia Tech. He joined Virginia Tech at the rank of Assistant Professor in 2008 and was promoted to Associate Professor in 2014. He currently serves as the Associate Director, Macromolecules & Interfaces Institute. He has published 2 book chapters, 29 journal papers and 71 refereed conference papers in advanced manufacturing. Dr. William's scholarly contributions have been recognized by many awards at Virginia Tech, nationally, and internationally. In 2014, Dr. Williams was recognized as the W. S. "Pete" White Chair for Innovation in Engineering Education followed by being recognized as faculty fellow by the College of Engineering in 2015. He and his graduate students have received the Outstanding Paper Award, Rapid Prototyping Journal and the Best Paper Award, ASME IDETC 19th Design for Manufacturing and the Life Cycle Conference in 2014. In 2013 he was awarded the extremely competitive and prestigious NSF CAREER award. He also received the John A. Curtis Lecture Award, ASEE Annual Conference & Exposition - Computers in Education Division (Best Paper Award) in 2013, and the International Outstanding Young Researcher in Freeform and Additive Fabrication Award (FAME Jr. Award), presented by the International Solid Freeform Fabrication Symposium. Dr. Williams has graduated 5 Ph.D. and 6 M.S. students and currently advises 3 Ph.D. and 4 M.S. students. Dr. William's has funded external research worth \$5.67 million with a personal share of \$2.6 million.

Dr. Williams through his research and scholarship in the field of additive manufacturing, by his innovative teaching methods, and his service and outreach to the community has made outstanding contributions to Virginia Tech, to the Commonwealth of Virginia and to the nation.

#### **RECOMMENDATION:**

That Dr. Christopher Williams be appointed as the EMC Senior Faculty Fellow in Advanced Manufacturing Systems starting August 10, 2015, with a salary supplement as provided by the endowment and if available, with funds from the eminent scholars match program.

## **ENDOWED PROFESSORSHIP**Sonny Merryman Inc. Professorship in Business

The Sonny Merryman Inc., Professorship in Business was established in 1998 to support the Pamplin College of Business in its efforts to attract and retain eminent scholars. The Department of Marketing, in recruiting a distinguished senior faculty member, proposed that the professorship be awarded to Dr. Dipankar Chakravarti. The departmental search committee unanimously supported the proposed award. The College Honorifics and Awards Committee endorsed this nomination as did Dean Sumichrast.

Dr. Chakravarti will join the Virginia Tech faculty in August 2015. He completed his Ph.D. in Industrial Administration with a specialization in Marketing at Carnegie Mellon University in 1979. He has served as a member of the faculty at the University of Florida, as Professor of Marketing and Tracy and Martha Thomas Faculty Fellow at the University of Arizona, the Ortloff Professor of Business at the University of Colorado-Boulder, and is currently a faculty member in the Carey Business School at Johns Hopkins University. He has served there as Vice Dean of Programs, Faculty Director of the Innovation for Humanity Program, and holds an affiliate faculty appointment in the Nitze School of Advanced International Studies.

Dr. Chakravarti is a distinguished scholar in Marketing with over 50 published papers, books, and book chapters. His 1991 paper in the *Journal of Consumer Research*, widely recognized as one of the top three journals in marketing, received that journal's Best Paper Award (for papers published in 1991-1993). His research, focused primarily on the cognitive processes underlying consumer choice and decision making has a world-wide reputation for its quality and contributions. As a result, Dr. Chakravarti has been invited to present his work at universities throughout the United States, Europe, India, and China. An award-winning teacher, Dr. Chakravarti has served on the program or dissertation committees of over 50 doctoral students as well as 10 master's thesis committees. In short, Dr. Chakravarti is a distinguished scholar fully deserving of this professorship.

#### **RECOMMENDATION:**

That Dr. Dipankar Chakravarti be appointed to the Sonny Merryman Inc. Professorship, effective August 10, 2015, with a salary supplement as provided by the endowment and, if available, with funds from the eminent scholars match program.

# **ENDOWED FACULTY FELLOWSHIP**Union Junior Faculty Fellowship in Entrepreneurship

The Union Junior Faculty Fellowship in Entrepreneurship was established in 2014 to expand Union's relationship with Virginia Tech and to support the Pamplin College of Business and what is now the Apex Systems Center for Innovation and Entrepreneurship, in their efforts toward the future of business development throughout the Commonwealth of Virginia. The Union Junior Faculty Fellow may be awarded to an assistant or associate professor who participates in the Apex Systems Center for Innovation and Entrepreneurship and whose work and research is related to business development and entrepreneurship. Dean Sumichrast assembled a Search Committee for this Fellowship in Spring 2015. With unanimous support, that committee nominated Dr. David Townsend, Assistant Professor of Management, for this Fellowship. The College Honorifics and Awards Committee endorsed this nomination as did Dean Sumichrast.

Dr. Townsend joined the Virginia Tech faculty in 2014. He completed is Ph.D. at the University of Oklahoma in 2008 and joined the faculty of North Carolina State University. In 2011 he returned to the University of Oklahoma.

Dr. Townsend has an active research program in the area of entrepreneurship with 17 publications to date including papers in the most recognized scholarly journals in that area. His work has been referenced as well in the popular press including the New York Times and Business Week.

Since joining the Virginia Tech faculty, Dr. Townsend has taught courses in the entrepreneurship area and has been active in the Innovate living/learning program which is a central program of the Apex Center. He is also active in service to the University and to the profession. He is active on committees of the Academy of Management, serves on the editorial boards of two scholarly journals, and has been recognized twice as Outstanding Reviewer by the Journal of Business Venturing. Dr. Townsend has shown himself to be an outstanding faculty member and has a bright future at Virginia Tech.

### **RECOMMENDATION:**

That Dr. David Townsend be appointed to the Union Junior Faculty Fellowship effective for a period of three years beginning August 10, 2015, with a salary supplement as provided by the endowment as stipulated above and if available, with funds from the eminent scholars match program.

#### **FACULTY LEAVE REQUEST**

Virginia Tech provides tenured faculty, and faculty on continued appointment with opportunities that include paid leave for intensive study or research that advances the individual's profession and contributions to the university.

The following faculty member is requesting a <u>research assignment</u> (full salary for one semester) for the purpose and period of time specified:

<u>Tyson, John,</u> University Distinguished Professor in the Department of Biological Sciences, College of Science, spring 2017: to serve as an elected visiting research fellow of Merton College, Oxford University, and to conduct research on computational cell biology.

### **RECOMMENDATION:**

That the above research assignment leave be approved as requested.

#### **EXCEPTION TO THE VIRGINIA CONFLICT OF INTEREST ACT**

**WHEREAS**, the Code of Virginia section 2.2-3106, places prohibitions on an employee from supervising a member of his immediate family; and

**WHEREAS,** Dr. Aisling Kelliher has been offered the position of tenured associate professor of computer science in the College of Engineering, and her spouse, Dr. Thanassis Rikakis serves as executive vice president and provost; and

WHEREAS, it is in the best interest of Virginia Tech for such dual employment to exist; and

**WHEREAS,** Dr. Rikakis has agreed he will not participate in, nor have influence over, decisions related to Dr. Kelliher's annual evaluation, recommendation for merit increase or other personnel related decisions;

**NOW, THEREFORE BE IT RESOLVED**, that Dr. Aisling Kelliher be evaluated using the department's usual process, overseen by the department head, and that Dr. Kelliher's final evaluation will be reviewed and approved by the president; and

**ALSO BE IT RESOLVED**, that Dr. Rikakis will not be supervised, evaluated, or overseen in relation to other personnel decisions by Dr. Kelliher.

# **RECOMMENDATION:**

That an exception to the Conflict of Interest Act be granted by the Board of Visitors as provided by the Code of Virginia with appropriate safeguards for the supervision of Dr. Kelliher during the time in which her spouse serves as executive vice president and provost.

## **Faculty Personnel Changes Report**

# ACADEMIC AFFAIRS COMMITTEE AND FINANCE AND AUDIT COMMITTEE

# Quarter ending June 30, 2015

The Faculty Personnel Changes Report includes new appointments and adjustments in salaries for the general faculty, including teaching and research faculty in the colleges, and for administrative and professional faculty that support the university including the library, extension, academic support, athletics, and administration. The report is organized by senior management area (college or vice presidential area).

Since the last Board meeting, the university has made the following faculty personnel appointments and salary adjustments:

Teaching and Research Faculty New Appointments with Tenure or Continued Appointment New Appointments to Tenure-Track or Continued Appointment-Track New Appointments to Non-Tenure Track	9 24 0
Adjustments in Salary	2
Administrative and Professional Faculty New Appointments	6
Adjustments in Salary One-time payments One-time payments for Post-Season Sports Events	16 5 26

# **RECOMMENDATION:**

That the Board ratify the Faculty Personnel Changes Report

# FACULTY PERSONNEL CHANGES 8/31/2015

# **TEACHING AND RESEARCH FACULTY**

#### **NEW APPOINTMENTS**

					EFF DATE	% APPT		JAL RATE
NAME	TITLE	DEPARTMENT	REG or RSTR	MONTHS			BASE	ONE-TIME
Agriculture & Life Sciences								
Cahoon, Charles	Assistant Professor	Eastern Shore AREC	Reg	12	25-Jun-15	100	\$ 85,000	
Architecture & Urban Studies								
Jensen, Anders	Assistant Professor	School of Architecture + Design	Reg	9	10-Aug-15	100	\$ 72,000	
Business		-						
Chakravarti, Dipanker	Professor - Tenured	Marketing	Reg	9	10-Aug-15	100	\$ 427.777	
Chaxel, Sophie	Assistant Professor	Marketing	Reg	9	10-Aug-15	100	\$ 427,777	
Pandelaere, Mario	Associate Professor - Tenured	Marketing	Reg	9	10-Aug-15	100	\$ 175,000	
•	Associate Floressor - Terrured	Marketing	ixeg	9	10-Aug-13	100	φ 175,000	
Engineering								
Asbeck, Alan	Assistant Professor	Mechanical Engineering	Reg	9	10-Aug-15	100	\$ 95,000	
Bairaktarova, Diana	Assistant Professor	Engineering Education	Reg	9	10-Aug-15	100	\$ 88,000	
Ben-Tzvi, Pinhas	Associate Professor - Tenured	Mechanical Engineering	Reg	9	10-Aug-15	100	\$ 120,000	
Chen, Cheng	Assistant Professor	Mining and Minerals Engineering	Reg	9	10-Aug-15	100	\$ 88,000	
Cheng, Jiangtao	Associate Professor	Mechanical Engineering	Reg	9	10-Aug-15	100	\$ 105,000	
Deng, Weiwei	Associate Professor - Tenured	Mechanical Engineering	Reg	9	10-Aug-15	100	\$ 110,000	
Eskandarian, Azim	Professor - Tenured	Mechanical Engineering	Reg	12	10-Aug-15	100	\$ 315,000	
Lee, Walter	Assistant Professor	Engineering Education	Reg	9	10-Aug-15	100	\$ 86,500	
Meng, Na	Assistant Professor	Computer Science	Reg	9	10-Aug-15	100	\$ 94,000	
Rozovskaya, Alla	Assistant Professor	Computer Science	Reg	9	10-Aug-15	100	\$ 94,000	
Servant, Francisco	Assistant Professor	Computer Science	Reg	9	10-Aug-15	100	\$ 92,000	
Tong, Rong	Assistant Professor	Chemical Engineering	Reg	9	10-Aug-15	100	\$ 93,000	
Untaroiu, Alexandrina	Assistant Professor	Biomedical Engineering and Mechanics	Reg	9	10-Aug-15	100	\$ 88,000	
Liberal Arts and Human Sciences								
Apkarian, Jacob	Assistant Professor	Sociology	Reg	9	10-Aug-15	100	\$ 60,000	
Christensen, Danille	Assistant Professor	Religion & Culture	Reg	9	10-Aug-15	100	\$ 58,500	
Ganter, Susan	Professor - Tenured	School of Education	Reg	12	1-Aug-15	100	\$ 180,000	
Jackson, Jeffrey	Assistant Professor	Human Development	Reg	9	10-Aug-15	100	\$ 73,000	
Lind, Douglas	Professor - Tenured	Philosophy	Reg	12	1-Jul-15	100	\$ 141,444	
Shivers, Carolyn	Assistant Professor	Human Development	Reg	9	10-Aug-15	100	\$ 63,000	

1

#### continued

# **TEACHING AND RESEARCH FACULTY**

### **NEW APPOINTMENTS**

					EFF DATE	% APPT	ANNU	JAL RATE
NAME	TITLE	DEPARTMENT	REG or RSTR	MONTHS			BASE	ONE-TIME
<u>Science</u>								
Barnes, Edwin	Assistant Professor	Physics	Reg	9	10-Aug-15	100	\$ 80,000	
Economou, Sophia	Associate Professor - Tenured	Physics	Reg	9	10-Aug-15	100	\$ 90,000	
Glesener, Dorothy	Assistant Professor	Geosciences	Reg	9	10-Aug-15	100	\$ 78,000	
Jones, Caroline	Assistant Professor	Biological Sciences	Reg	9	10-Aug-15	100	\$ 75,000	
Mayhall, Nicholas	Assistant Professor	Chemistry	Reg	9	10-Aug-15	100	\$ 82,000	
Pollyea, Ryan	Assistant Professor	Geosciences	Reg	9	10-Aug-15	100	\$ 78,000	
Sarangi, Sudipta	Professor - Tenured	Economics	Reg	12	10-Aug-15	100	\$ 180,000	
Smith, Alexander	Assistant Professor	Economics	Reg	9	10-Aug-15	100	\$ 99,000	
<u>Veterinary Medicine</u>								
Gohlke, Julia	Assistant Professor	Population Health Sciences	Reg	9	10-Aug-15	100	\$ 75,000	

# **TEACHING AND RESEARCH FACULTY**

					EFF DATE	% APPT	ANNU	AL RATE
NAME	TITLE	DEPARTMENT	REG or RSTR	MONTHS			BASE	ONE-TIME
Engineering								
Priya, Shashank	Professor	Mechanical Engineering	Reg	12	8-Apr-15	100	\$ 260,000	
Natural Resources								
Sullivan, Bradley	Professor	Forest Resources and Environmental Conservation	Reg	12	10-May-15	100	\$ 130,980	

# **ADMINISTRATIVE AND PROFESSIONAL FACULTY**

### **NEW APPOINTMENTS**

					EEE DATE	0/ ADDT	ANINI	IAL RATE
NAME	TITLE	DEPARTMENT	REG or RSTR	MONTHS	EFF DATE	% APPT	BASE	ONE-TIME
Dean of Libraries								
Metko, Stefanie	Online Learning and Education Librarian	Library	Reg	12	25-May-15	100	\$ 52,000	
<u>President</u>								
Anderson, Britney	Assistant Coach, Women's Basketball	Athletics	Reg	12	22-Jun-15	100	\$ 90,000	
Jardine, Brian	Assistant Director, Olympic Sports	Athletics	Reg	12	10-Jun-15	100	\$ 40,000	
Moris, Peter	Associate Athletics Director, Strategic Communications	Athletics	Reg	12	4-May-15	100	\$ 94,000	
Vulin, Heather	Assistant Coach, Women's Basketball	Athletics	Reg	12	8-Jun-15	100	\$ 97,299	
Veterinary Medicine								
Erskine, Michael	Director, Marion DuPont Scott Equine Medical Center	Equine Medical Center	Reg	12	25-Apr-15	100	\$ 165,000	

# **ADMINISTRATIVE AND PROFESSIONAL FACULTY**

					EFF DATE	% APPT			AL RATE
NAME	TITLE	DEPARTMENT	REG or RSTR	MONTHS				BASE	ONE-TIME
Agriculture & Life Sciences									
Stylianos, Kyriakos	Research/IT Manager	Human Nutrition, Foods & Exercise	Reg	12	25-Apr-15	100	\$	60,000	
<u>Engineering</u>									
Marcum, Robert	Business Manager	Computer Science	Reg	12	10-Apr-15	100	\$	65,000	
Natural Resources									
Lang, Stephanie	Director of Academic Programs	Natural Resources	Reg	12	1-May-15	100	\$	59,800	
President									
Adair, Charles	Head Women's Soccer Coach	Athletics	Reg	12	1-Jul-15	100			\$ 10,000
			9		1-Jul-15	100			\$ 5,000
Babcock, Bradley W	Director of Athletics	Athletics	Reg	12	1-May-15	100			\$ 10,000
•			J		16-Jul-15	100			\$ 10,000
Cianelli, David	Director of Track and Field, Cross	Athletics	Reg	12	16-Mar-15	100			\$ 8,000
			_		1-May-15	100			\$ 4,000
					25-Jun-15	100			\$ 3,000
					25-Jun-15	100			\$ 7,500
Foster, Charles	Assistant Coach, Men's Track and Field	Athletics	Reg	12	16-Mar-15	100			\$ 4,000
					25-Jun-15	100			\$ 4,500
Gomez, Freddy	Assistant Coach, Women's Tennis	Athletics	Reg	12	25-Jun-15	100			\$ 2,000
Hoffman, David	Assistant Coach, Wrestling	Athletics	Reg	12	25-Apr-15	100	\$	48,000	
Huss, Stephen	Assistant Coach, Men's Tennis	Athletics	Reg	12	25-Jun-15	100			\$ 2,000
Jack, Gregory	Associate Head Coach, Men's Track and Field	Athletics	Reg	12	16-Mar-15	100			\$ 4,000
					25-Jun-15	100			\$ 3,000
					25-Jun-15	100			\$ 4,500
Johannigmeier, Eric	Assistant Coach, Men's Track and Field	Athletics	Reg	12	16-Mar-15	100			\$ 4,000
					25-Jun-15	100			\$ 4,500
Johnson, James	Former Head Men's Basketball Coach	Athletics	Reg	12	1-May-15	100	\$	283,776	
Miller, Justin	Assistant Coach, Softball	Athletics	Reg	12	25-Jun-15	100			\$ 2,000
Moris, Peter	Associate Athletic Director, Strategic Communications	Athletics	Reg	12	1-Jun-15	100			\$ 1,000
O'Brien, Angela	Assistant Coach, Softball	Athletics	Reg	12	25-Jun-15	100			\$ 2,000

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# **ADMINISTRATIVE AND PROFESSIONAL FACULTY**

					EFF DATE	% APPT	ANNU	ΛΙ D	ΛTF
NAME	TITLE	DEPARTMENT	REG or RSTR	MONTHS	LITUALL	70 Al I I	BASE		ONE-TIME
Piemonte, Ronald	Head Diving Coach	Athletics	Reg	12	1-May-15	100		\$	3,000
Reed, Desiree	Executive Associate Athletics Director/SWA	Athletics	Reg	12	1-Jun-15	100	\$ 210,000	•	7,
Sharp, Brian	Associate Head Coach, Men's Golf	Athletics	Reg	12	25-Jun-15	100		\$	2,000
Shuman, John	Associate Director, S/C Football	Athletics	Reg	12	25-Apr-15	100	\$ 50,000		
Thomas, Benjamin	Associate Head Coach, Men's Track and Field	Athletics	Reg	12	16-Mar-15	100		\$	4,000
			_		25-Jun-15	100		\$	4,500
Thomas, Nelson	Head Coach, Softball Head Men's Tennis Coach	Athletics	Reg	12	25-Jun-15	100		\$	4,000
Thompson, James	Head Men's Tennis Coach	Athletics	Reg	12	1-Jun-15 25-Jun-15	100 100		\$ \$	4,000 4,000
Williams, Brent	Head Men's Basketball Coach	Athletics	Reg	12	16-Jul-15	100		\$	20,000
Zalewski, Paul	Assistant Coach, Men's Track and Field	Athletics	Reg	12	16-Mar-15	100		\$	4,000
					25-Jun-15	100		\$	4,500
Zawacki, Terry Ann	Head Coach, Women's Tennis	Athletics	Reg	12	25-Jun-15	100		\$	4,000
Senior Vice President & Provost									
Sparks, Richard	Registrar	Registrar's Office	Reg	12	25-Apr-15	100	\$ 120,000		
Vice President for Development & Un	iversity Relations								
Kobia, Holly	Interim Director of Development for the College of Architecture and Urban Studies	University Development	Reg	12	19-Jun-15	100	\$ 73,015		
Vice President for Information Technol	blogy								
Bond, Mark	Senior Director, Networked Learning Initiative and Faculty Digital Fluency	Technology-enhanced Learning and Online Strategies	Reg	12	10-Mar-15	100	\$ 80,000		
Flora, Michael	Windows Application & Systems Administrator	IT Management	Reg	12	22-Apr-15	100	\$ 62,000		
Romanella, Alana	Assistant Director, Development and Fiscal Administration	IT Management	Reg	12	25-May-15	100	\$ 45,200		
Williams, Daron	Director of Instructional Design and Development	Technology-enhanced Learning and Online Strategies	Reg	12	10-Mar-15	100	\$ 60,000		

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# **ADMINISTRATIVE AND PROFESSIONAL FACULTY**

					EFF DATE	% APPT	ANNU	AL RATE
NAME	TITLE	DEPARTMENT	REG or RSTR	MONTHS			BASE	ONE-TIME
Vice President for Research  Cuskovic, Amel	Human Resources Manager	Virginia Tech Carilion Research Institute	Reg	12	10-Jun-15	100	\$ 83,500	
Vice President for Student Affairs								
Penven, James	Associate Director for Academic Initiatives	Housing and Residence Life	Reg	12	25-Apr-15	100	\$ 75,000	
White, Penny	Director of Parent and Alumni Relations and Interim Director of New Student and Family Programs	New Student and Family Programs	Reg	12	10-May-15	100	\$ 96,218	

#### DISTRIBUTION OF NIKE CONTRACT REVENUE RESOLUTION

WHEREAS, in September 2006, the University entered into an agreement for its Athletic Department with NIKE USA, Inc., which grants to NIKE the status as official supplier and sponsor of athletic footwear, apparel and accessory products of Virginia Tech athletic sports programs, and that agreement has been extended, most recently by agreement signed in September 2014; and

**WHEREAS,** in consideration of this status, NIKE has agreed to pay cash considerations each fiscal year to the University, initially for eight contract years, and now extended through the contract year ending June 30, 2023; and

WHEREAS, additional cash bonuses will be paid to the University by NIKE in the event the men's and/or women's basketball programs participate in NCAA final tournament play; and

**WHEREAS**, the Athletic Department proposes to distribute the NIKE cash consideration revenue as bonus payments to the head coaches of Virginia Tech sports programs;

**NOW, THEREFORE, BE IT RESOLVED** that the Board of Visitors approves the accompanying cash considerations revenue distribution plan proposed by the Athletic Department for the fiscal year beginning July 1, 2007, and continuing through the fiscal year beginning July 1, 2022, and that these payments will be made as one-time bonus payments to the head coaches as proposed and will be paid through the University payroll system.

#### **RECOMMENDATION:**

That the NIKE cash considerations revenue distribution proposed by the Athletic Department through the contract year ending June 30, 2023, be approved.

# NIKE CONTRACT CASH CONSIDERATIONS REVENUE DISTRIBUTION PLAN (to accompany Board of Visitors resolution dated August 31, 2015)

	Contract Revenue <u>Distribution</u> *
Women's Basketball Head Coach	\$10,000
Men's Baseball Head Coach	\$5,000
Director of Track and Field/Cross Country (TFCC) Programs	\$4,000
Director of Swimming and Diving Programs	\$4,000
Cross Country Head Coach	\$3,000
Diving Head Coach	\$3,000
Women's Golf Head Coach	\$3,000
Women's Lacrosse Head Coach	\$3,000
Women's Soccer Head Coach	\$3,000
Women's Softball Head Coach	\$3,000
Women's Tennis Head Coach	\$3,000
Women's Volleyball Head Coach	\$3,000
Men's Golf Head Coach	\$3,000
Men's Soccer Head Coach	\$3,000
Men's Tennis Head Coach	\$3,000
Men's Wrestling Head Coach	\$3,000
TOTAL DISTRIBUTION:	\$59,000

^{*}One-time bonus amounts to be paid on July 1 of the fiscal/contract year.

# Board of Visitors Constituent Report Morgan Sykes, Undergraduate Representative August 31, 2015

Good afternoon Rector Petrine, President Sands, members of the board, administration, and distinguished guests. I am honored to have this opportunity to speak on behalf of the undergraduate students and look forward to working with you all over the next year.

Before I begin, I'd like to once again welcome our new Executive Vice President and Provost, Dr. Rikakis. I am looking forward to working with you and hope you are enjoying your new home at Virginia Tech.

This time of year in Blacksburg is always full of excitement, but the anticipation of the Ohio State Buckeyes coming to Lane Stadium is indescribable! Athletics' new "THIS IS HOME" slogan has been spreading rapidly throughout campus via social media and that, alongside excitement for upcoming sporting events, seems to have positively impacted undergraduate enthusiasm toward Hokie Sports.

As I know you are all aware, this week we not only welcomed new administration, but also approximately 8,800 new students! The Class of 2019 alone includes 6,300 new Hokies making them the largest undergraduate class in Virginia Tech's history. Their collegiate journey is just beginning, but results from the recent Gallup survey show that their success at Virginia Tech is promising, as is their loyalty and love for our university when they transition into Hokie alumni. This comes as little surprise with the released rankings from Active Times and the Princeton Review, declaring Virginia Tech as having the "Best Campus Food" in 2014, having the second "Happiest Students," being fourth in "Best Quality of Life," and named the "Fittest Campus in America" in 2015.

While these are great achievements, it is important that we maintain the same level of excellence, even with the increased student population on campus. With more students comes a need for more resources such as housing, dining, and parking. I know the university is well aware of these ongoing issues and already working on solutions to better accommodate the extra Hokies. With my position this year, I will work closely with my peers to recognize areas that need extra attention and offer suggestions and adjustments from the perspective of undergraduates.

InclusiveVT remains at the forefront of initiatives at our university. With help from the Intercultural Engagement Center and numerous other on-campus organizations and offices, InclusiveVT is becoming more easily recognized and promoted throughout Virginia Tech. Thus far, the welcome receptions for underrepresented students, hosted by the IEC, have greatly increased in attendance. More than 600 students have already attended the five receptions

held last week and three more will take place this week. The search for the new Senior Advisor to the President and Vice Provost for Inclusion and Diversity is well underway, and I am excited to be assisting with interviews for the finalists in the coming weeks. The addition of this position and campus-wide efforts encouraging students and faculty to live out the values stated in the Principles of Community will continue to strengthen the Hokie Nation and make our campus more welcoming for all.

Due to the enormity of my constituency, I decided the best way to serve the entirety of our undergraduate student body was through the formation of a Student Advisory Committee. In addition to myself, the committee consists of five well-connected students each with different areas of interest and experience, so as to reach out to as many corners of undergraduate student life as possible. Utilizing the unique and widespread connections of our diverse committee, we have already taken small steps in order to effectively interact with undergraduates. Last week, a Twitter Page was created to share news and be able to receive real time feedback and grievances from the student body, and the newly redesigned GobblerConnect will serve as another communicative tool. I also intend to work with Ask Big Questions facilitators and Peer Mentors to reach out to the freshman class through facilitated discussion. Through these conversations we can further educate younger Hokies about programs, such as The Keystone Experience, that encourage a co-curricular approach to learning and increased student involvement on campus.

In closing, I would like to thank the board and university administration for valuing student opinion and engaging with the student body. President Sands and his administration have created an atmosphere of mutual respect that encourages students to get involved, live out Ut Prosim, and truly make a difference in and out of the classroom. I am thankful to represent such an outstanding student body and am looking forward to all we will accomplish this upcoming year.

Thank you for your time and please let me know if I can ever be of any assistance!

# **Constituency Report**

Mohammed Seyam Graduate Student Representative to the Virginia Tech Board of Visitors August 31st, 2015

Good afternoon Rector Petrine, President Sands, distinguished members of the board, administration, and guests. It's such an honor, and a great responsibility, to represent the graduate students' community at Virginia Tech to this board.

My first time to know about Virginia Tech's Board of Visitors was when I attended one of the "lunch with the president" events, two years ago. I've learnt many things about Virginia Tech during that lunch, which was about one month after my international flight had landed at the states. But what really got my attention that day was how approachable the members of Virginia Tech administration are. For someone who just arrived to the country, it meant a lot to get the chance to speak with the president, the provost, vice presidents and deans. The graduate students who attended that lunch spent the whole time sharing ideas, concerns, problems, and suggesting solutions. From that day on, it was one of my goals to keep this kind of conversations going, and to turn words said in those meetings into action.

During the past month, I was fortunate to participate in several orientation and welcome back events, and I got the chance to speak with graduate students around campus in Blacksburg, as well as those who are here in the National Capital Region, whom I met last weekend on their orientation day at the Northern Virginia Center in Falls Church. One of the most successful events I've been to was the welcome BBQ that was organized by the Graduate Students Assembly (GSA). Despite the sudden pouring rain, this event was very well attended by graduate students, as well as President Sands and his wife who shared some good time and informal chats with students. I've also met with several students over a series of "lunch with the dean" events at the graduate school, where Dean DePauw got into direct conversations with new and old graduate students on what they like to see happening at Virginia Tech in general, and at the Graduate Life Center in particular. I've also worked on publicizing the VTBoVGradRep accounts on twitter and Facebook to reach out to students whom I didn't yet have the chance to talk with. The accounts have already gained many new followers, but more importantly is that I started receiving messages that wanted to discuss important issues related to graduate students, which is something I'm glad it's happening.

Today, while I'm presenting my first constituency report to the board, my mind recalls hundreds of stories I've heard while talking to many graduate students during the past two years. We, as graduate students, have a lot to worry about. We are concerned about work, family, kids, health insurance, salaries, job opportunities, our future, and – of course – our research! Our concerns are usually reasonable and valid, but they make us look like we always complain (which can be true sometimes, especially when we have submission deadlines!) However, this is the nature of graduate life. Therefore, I believe that for me to be the graduate student representative to this board, it shouldn't be only about being the students' voice in the board, but also to work with university administration

to make sure that students concerns are getting resolved, proposals are getting approved, and solutions are getting implemented.

Last year, Ashley Francis, my predecessor, has worked with the Graduate School, GSA, and several university units to resolve some graduate students' problems. As a result of this collaborative work, a new pilot parking program for graduate assistants, which is managed by a lottery system, has been implemented and is currently running. We received positive feedback from students about this new program, but as you all know, parking is not an easy problem to deal with, especially with the expected increase in enrollment on the upcoming few years. However, the pilot parking program is a step forward towards a solution, and that is what I believe to be the best way to handle problems, which is to keep moving forward, even with small steps, towards solutions.

The other continuing problem is child care, or let me say "affordable" child care, and one other step forward towards a solution for this problem was the Graduate School's Little Hokies Hangout program, which is a parent-run cooperative playgroup for children between the ages of 2 and 5. Again, a good step forward, but there is still a lot to be done regarding this issue.

Child care, inclusion and diversity, parking, housing, health and dental insurance for graduate students are important issues that will continue to be on my agenda. But I also want to present one other topic that I plan to work on this year with several members of university administration and graduate students, which is Open Access.

Open Access issues are currently being discussed widely both here in the states and all over the world. During the past years, I've participated in several conferences and events that discussed this topic. At Virginia Tech, and through the university libraries, we participated in the Open Access Week, Open Education Week, and Open Data Day by organizing our local events around campus. However, as a land-grant university, Virginia Tech has much more to offer when it comes to Open Access policies and strategies. I've already started, with members of the library, to explore what next steps can be taken. I believe we have some good starting points that aim at helping faculty, students, and researchers to serve Virginia Tech and the surrounding communities in better, and more accessible, ways.

Finally, I already know how smart Virginia Tech students are, I already know how sincere and dedicated the administration is, and I now know how passionate and committed this board members are. This unique combination makes me confident that the upcoming years will carry lots of good news for Virginia Tech. Thank you!

# Faculty Constituency Report Virginia Tech Board of Visitors August 31, 2015

Rami Dalloul, President-VT Faculty Senate

Good afternoon Rector Petrine, President Sands, Provost Rikakis, members of the Board of Visitors, and distinguished guests.

The Faculty Senate continued to work on a number of issues over the summer, which are briefly described in this report along with some affairs that will be addressed this academic year.

<u>Salary</u>—The faculty are very pleased to see the salary matter placed on a course to reach parity with peer institutions over the next few years. We recognize that salary increases must be negotiated in the context of many pressing budget needs, but we also note the significance of this aspect in attracting and more importantly retaining outstanding faculty at Virginia Tech.

Governance—The faculty look forward to continued conversations about faculty participation in governance. During the summer, the Faculty Senate leadership engaged in conversations about shared governance with various constituencies across campus. This effort culminated in a draft resolution proposing new avenues for meaningful participation and more effective feedback by the faculty on issues pertaining to faculty and academic affairs. We expect to continue the discussion this fall as the final resolution moves through governance.

<u>Grievance procedures</u>—The Faculty Senate task force charged with restructuring the senate committees on Reconciliation, Review, and Ethics designed a proposal to develop an Ombuds Office for faculty at Virginia Tech. Such an office would replace the three aforementioned committees in addressing faculty grievances, relations with supervisors, and charges of ethical misconduct. The Commission on Faculty Affairs along with the Faculty Senate will consider this proposal in the fall.

<u>Faculty-Staff relations</u>—The Faculty and Staff Senates have initiated discussion to establish mechanisms for more direct interactions including a joint task force to work on faculty-staff relationships for improved collaboration on areas of mutual concern.

<u>Growth</u>—The faculty are excited about the current and planned growth for Virginia Tech particularly for increasing student numbers. However, this prospect brings a number of challenges that the administration will be addressing as the president's visioning initiative gets under way. Differential impacts are expected on various units, departments, and faculty; as such, careful consideration of resource allocations in equitable and timely ways will be needed based on specific requirements and feedback from faculty of those impacted programs, as well as have open discussions with the Faculty Senate about the overall impacts of increased numbers of students at the university.

To conclude, these are truly exciting times at Virginia Tech as future plans for the institution are being charted. The faculty are appreciative to have representation on the Board of Visitors and look forward for further engagement and continued partnership.