

RESOLUTION TO DISCONTINUE CURRENT BACHELOR OF LANDSCAPE ARCHITECTURE AND APPROVE NEW BACHELOR OF LANDSCAPE ARCHITECTURE IN THE COLLEGE OF ARCHITECTURE, ARTS, AND DESIGN

WHEREAS, Virginia Tech strives to offer innovative and relevant curriculum to all students, and

WHEREAS, the College of Architecture, Arts, and Design has reviewed and offered revisions to the Bachelor of Landscape Architecture; and

WHEREAS, revisions to the degree have been reviewed and approved by faculty members at the department, school, college, and university levels; and

WHEREAS, the State Council of Higher Education for Virginia (SCHEV) has been consulted and is aware of the university's interest in having the new degree approved by all parties; and

WHEREAS, the current degree is 153 total credit hours, and the new degree is 120 total credit hours; and

WHEREAS, the reduction in total credit hours aligns with college and university goals to support successful and timely completion of degrees;

NOW, THEREFORE, BE IT RESOLVED, that the existing 153-credit hour Bachelor of Landscape Architecture degree be discontinued with a teach-out plan that begins in the fall of 2024;

AND, BE IT FURTHER RESOLVED, that the 120-credit hour Bachelor of Landscape Architecture degree be approved effective in the fall of 2024.

RECOMMENDATION:

That the Board of Visitors approve the discontinuation of the 153-credit hour Bachelor of Landscape Architecture degree and approve the 120-credit hour Bachelor of Landscape Architecture degree effective fall 2024.

April 9, 2024

Table of Contents

Description of the Proposed Program	1
Program Background	1
Institutional Mission	1
Accreditation.....	1
State Licensing Agency: Virginia Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects	2
Curriculum	2
Faculty Resources	5
Advisory Board.....	5
Student Learning Assessment	6
Employment Skills.....	10
Effect on Existing Degree Programs.....	11
Justification for the Proposed Program.....	11
Response to Current Needs (Specific Demand).....	11
Employment Demand	13
Duplication.....	14
Student Demand.....	14
Projected Resource Needs for the Proposed Program	15
Resource Needs.....	15
Appendices.....	20
Appendix A – Sample Plan of Study	A-1
Appendix B – Course Descriptions.....	B-1
Appendix C – Faculty Curriculum Vitae (abbreviated).....	C-1
Appendix D – Advisory Board	D-1
Appendix E – Employment Demand Job Announcements....	E-Error! Bookmark not defined.

Description of the Proposed Program

Program Background

Virginia Polytechnic and State University (Virginia Tech) seeks approval for a Bachelor of Landscape Architecture (B.L.A.) degree program in Landscape Architecture. The proposed degree program will be located in the College of Architecture, Arts, and Design, School of Design. The initiation date is fall 2024.

The purpose of the proposed B.L.A. in Landscape Architecture degree program is to educate students in foundational landscape design theories and techniques used to create landscape spaces. The program will focus on providing students with the knowledge and skills needed to create and manage landscape systems in the natural and built environment. The proposed program will prepare students to design and implement functional and environmentally sustainable landscape projects that incorporate the client expectations, building and development regulations, and budgetary constraints. Students will be able to analyze environmental reports on site conditions (e.g., drainage, energy usage), utilize computer-aided software to prepare graphic representations of plans, and implement landscape projects. Through experiential learning, students will be exposed to varying landscape projects, sites, client needs, and natural environments to gain hands-on experience in the field. Graduates will be prepared to serve as a landscape architect to design and manage projects principally directed at the functional, aesthetic, and sustainable use of land in the built and natural environments for public and private organizations.

Institutional Mission

The mission of Virginia Tech states:

“Inspired by our land-grant identity and guided by our motto, *Ut Prosim* (That I May Serve), Virginia Tech is an inclusive community of knowledge, discovery, and creativity dedicated to improving the quality of life and the human condition within the Commonwealth of Virginia and throughout the world.”

The proposed B.L.A. in Landscape Architecture degree program aligns with the institution’s mission. The program will prepare students to use foundational “knowledge” of design and “creativity” to construct functional landscape spaces that integrate natural and human systems. Graduates will enhance the natural beauty of landscapes thus impacting the “quality of life” of people in the planned environment. The proposed degree program will serve to provide landscape architects that can create aesthetically pleasing and purposeful environments in the “Commonwealth of Virginia.”

Accreditation

The Landscape Architecture Accreditation Board (LAAB) is the accreditation organization for college and university for landscape architectural degree programs. LAAB develops the accreditation standards for degree programs in landscape architecture at the bachelor’s and

master’s level. The mission of the organization is “to evaluate, advocate for, and advance the quality of education in landscape architectural degree programs.”¹

Virginia Tech’s existing B.L.A. in Landscape Architecture degree program is fully accredited by the Landscape Architecture Accreditation Board. The degree program was most recently reaccredited in 2021 and is scheduled for reaccreditation in 2027. The proposed B.L.A. degree program in Landscape Architecture will be accredited under the existing degree program’s accreditation status through the 2027 reaccreditation process.

Virginia Tech is proposing the following timeline for the reaccreditation process:

Spring 2026	Apply for reaccreditation
AY 2025-26	Complete self-study document
Fall 2026	Submit self-study document
Spring 2027	Site visit by accreditation team
Summer 2027	Decision rendered about accreditation status

State Licensing Agency: Virginia Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects

The Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects, within the Virginia Department of Professional and Occupational Regulation has established standards and requirements for Landscape Architecture Licensure². The Board provides detailed and specific information, including completion of an accredited landscape architecture degree program, for meeting the requirements for individuals wanting to practice landscape architecture in Virginia. The proposed accredited program will meet the Virginia education requirements for licensure.

Curriculum

The proposed B.L.A. in Landscape Architecture degree program will require 120 credit hours. A senior project is required.

The curriculum for the degree program has been designed to meet the professional standards of the Landscape Architecture Accreditation Board.

The focus of the core curriculum is to provide students with a foundation in the design theory, site planning, and knowledge and skills needed to execute a landscape architecture project. Students learn about the landscape design process and how to plan landscapes for different types of sites on large and small scales. The core coursework instills fundamental knowledge of landscape

¹ Become a Landscape Architect: LAAB: Mission, Identity and Values <https://www.asla.org/laabmission.aspx> Accessed 15 November 2023.

² Department of Professional and Occupational Regulation. The Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects (APELSCIDLA Board) examines, licenses, and regulates approximately 35,000 individuals and related business entities in Virginia. <https://www.dpor.virginia.gov/Boards/APELS>. Accessed 15 November 2023.

architecture projects from the idea stage to the implementation phase including technological tools used for schematic drawings. Coursework will educate students in how to incorporate natural outdoor elements (e.g., soils, water, plants, trees) into the project and plan the design of the space within the context of its planned use. Students will develop skills to conduct site analyses and create construction documentation. Students will also gain knowledge on how to communicate landscape architecture project details with clients to include visual representations of the project and technical specifications (e.g., space needed for landform grading, watershed drainage requirements). The curriculum will include opportunities for students to receive hands-on training in the development and execution of a landscape architecture project as an individual in studio projects and the senior project as well as a team member on design studio projects and annual program-wide design charrettes.

Program Requirements

Pathways General Education Requirements: 42-45 credit hours

Concept 1: Discourse (9 credits)

LAR 4034: Evolution of the American Landscape (3 credits) Students must take LAR 4034.

Additional Discourse Courses (6 credits)

Concept 2: Critical Thinking in the Humanities (6 credits)

Concept 3: Reasoning in the Social Sciences (6 credits)

LAR 3264: People Community and Place (3 credits) Students must take LAR 3264.

Additional Reasoning in the Social Sciences Course (3 credits)

Concept 4: Reasoning in the Natural Sciences (6 credits)

LAR 1254: Environment and Natural Systems (3 credits) Students must take LAR 1254.

Additional Reasoning in the Natural Sciences Course (3 credits)

Concept 5: Quantitative and Computational Thinking (9 credits)

LAR 3044: Land Analysis and Site Planning (3 credits) Students must take LAR 3044.

Additional Quantitative and Computational Thinking Courses (6 credits)

Concept 6: Critique and Practice in Design and the Arts (6 credits)

LAR 1264: Seeing, Understanding, and Representing Landscape and the Built Environment (3 credits) Students must take LAR 1264.

LAR 2154: Landscape Architecture History (3 credits) Students must take LAR 2154.

Concept 7: Critical Analysis of Identity and Equity in the United States (0 – 3 credits) (*may be met by another core concept course*)

Core Courses: 39 credit hours

LAR 1014: Landscape Architecture Foundation Design Laboratory (6 credits)

LAR 2025: Landscape Architecture Design Studio, Place, Process and People (6 credits)

LAR 2026: Landscape Architecture Design Studio, Place, Process and People (6 credits)

LAR 4014: Design and Construction Documentation (6 credits)

LAR 4084: Landscape Design and Planning Studio (6 credits)

LAR 4094: Senior Project (3 credits)

LAR 4094: Senior Project (6 credits)

Landscape Architecture Major Courses: 48 credit hours

Six courses (18 credit hours) will be double counted to fulfill the Pathways General Education requirement and the Landscape Architecture Major Courses requirement. Courses are denoted with an asterisk.

ARCH 1015: Foundation Design Laboratory (6 credits)

LAR 1254: Environmental and Natural Systems (3 credits) *

LAR 1264: Seeing Understanding and Representing Landscape and the Built Environment (3 credits) *

LAR 2154: Landscape Architecture History (3 credits) *

LAR 2164: Landform Function and Aesthetics (4 credits)

LAR 3044: Land Analysis and Site Planning (3 credits) *

LAR 3154: Watershed Sensitive Site Design and Construction (4 credits)

LAR 3164: Design in Detail: Materials, Methods and Assembly (4 credits)

LAR 3264: People Community and Place (3 credits) *

LAR 4034: Evolution of American Landscape (3 credits) *

LAR 4154: Design Studies of the Built Environment (6 credits)

LAR 4244: Professional Practice in Landscape Architecture (3 credits)

LAR 4254: Theories of Landscape Architecture (3 credits)

Restricted Elective Courses: 6 credit hours

Students will select courses from a list of courses. Selected coursework must be approved by an advisor.

Earth Science: 3 credit hours

ENSC 3134: Soils in the Landscape (3 credits)

GEOS/CSES/GEOG 3304: Geomorphology (3 credits)

FREC 4354: Forest Soil and Watershed Management (3 credits)

CSES 3114: Soils (3 credits)

Plant Science: 3 credit hours

HORT 3325: Wood Landscape Plants (3 credits)

HORT 3326: Woody Landscape Plants (3 credits)

FREC 2314: Forest Biology and Dendrology (2 credits) *and*

FREC 2324: Dendrology Laboratory (1 credit)

Elective Courses: 0 - 3 credits

Students will select courses from across the university. Selected coursework must be approved by an advisor.

Total credit hours: 120 credit hours

The curriculum requirements total 138 credit hours. However, due to the double count of six courses, 18 credit hours for the landscape architecture major courses requirement students will only be required to complete 120 total credit hours to earn the degree.

Capstone Course

The capstone course (i.e., senior project) provides students with an opportunity to engage in a landscape architecture project. The course involves a student or group selected design project supervised by the course instructor. Students will examine a self-developed research question in an area of interest in landscape architecture. Students will identify and select a site for their project and develop and conduct the design investigation (analyze site conditions, client requirements, and environmental, social, and cultural impact).

The students will be required to complete a presentation to the program faculty and a panel made up of landscape architecture professionals. Students will also have to submit a written document. The final document and presentation will include a comprehensive landscape architecture design study related to the research question presented via oral, written, and visual formats. The faculty of record for the course creates a rubric for student assessment and is responsible for evaluating student learning and assigning a grade for the document and presentation. Students will be graded on design principles and processes, technological tools used, and communication strategies. If a student fails to pass the capstone course, the student will be given the opportunity to retake the course. The student may elect to work on the same project or complete a new project. The student will be required to have the project approved by the instructor. If a student fails in the second attempt, the student will be dismissed from the degree program and offered the opportunity to transfer to another degree program within the university.

See Appendix A for a sample plan of study.

See Appendix B for course descriptions.

Faculty Resources

The School of Design has twenty-two (22) full-time faculty. Five (5) faculty members will teach the core and required courses in the proposed degree program. Four (4) tenure-track faculty members have doctoral degrees in landscape architecture or closely related discipline and one (1) tenured faculty member has a master's degree in landscape architecture. The faculty members teaching in the program have a combined 91 years of teaching, research, or practical experience in design, planning, and management of outdoor spaces. Collectively, they have published dozens of articles in and served as manuscript reviewers for professional journals, made over 150 presentations at professional conferences, and served as leaders of national organizations.

See Appendix C for faculty curriculum vitae (abbreviated).

Advisory Board

The faculty in the School of Design established an external advisory board in 1989 to advise the program faculty on student recruitment, curriculum, and experiential learning projects in the Landscape Architecture program. The advisory board reviewed the proposed curriculum and made suggestions about the knowledge and skills needed by landscape architecture professionals.

The advisory board is composed of 14 members. The members will serve on the board for three (3) years. The members include experts in the fields of landscape architecture, community

planning and development, architecture, park and natural resource planning, and work in public, private, and non-profit offices as well as municipal and state agencies. The board will be responsible for evaluating any curriculum changes, reviewing the curriculum requirements to ensure the degree program aligns with industry needs for bachelor-level trained graduates, ensuring the degree program is meeting accreditation requirements, and providing information and guidance for experiential learning sites.

See Appendix D for list of current members of the advisory board.

Student Learning Assessment

Students who complete the Bachelor of Landscape Architecture (B.L.A.) in Landscape Architecture degree program will possess the appropriate knowledge, skills, and abilities needed to plan, design, and manage the built and natural environments including parks, campuses, streetscapes, trails, plazas, neighborhoods, residences, and other projects that strengthen communities. This includes the planning and design of landscapes such as parks, campuses, streetscapes, trails, plazas, neighborhoods, residences, and other projects that strengthen communities. Student learning will be assessed throughout the program through a variety of formative and summative measures. Assessment measures will include, but are not limited to, class assignments, projects, written work, lecture and design studio in-progress and final presentations, laboratory assignments, and quizzes/tests/exams. In the capstone course, students will be expected to demonstrate knowledge and skills in a practical, “real world” sense and assessment measures will include presentations.

During the senior project, students will be assessed by faculty and professional landscape architecture review panels. Students will be assessed on their knowledge and skills to conduct a landscape architecture design project. This includes the student’s abilities to conduct appropriate landscape analysis, develop design solutions that are creative, functional, and evidence-based, integrate landscape technologies (landform design, stormwater management, and construction materials and techniques) into their work, and communicate their work in written, graphic, and oral formats. Faculty and professional landscape architecture review panels will provide reviews of student work both as formative and summative measures.

Learning Outcomes

All students will be able to:

- Describe and use design processes, principles, and theories in a landscape project.
- Employ design processes and methodologies used in landscape architectural practices.
- Evaluate the context of a landscape architecture project (i.e., political, social, cultural, and natural sciences) using appropriate analytical techniques.
- Identify, define, and solve design and planning problems relevant to a design project.
- Employ design elements and landscape design principles to create landscape design alternatives.
- Incorporate community needs, goals, and values into a landscape architecture design project.

- Design objects and space to create a desired “sense of place” (e.g., the emotive bonds and attachments people develop or experience in particular locations and environments) at scales ranging from the home to the nation.
- Communicate design ideas and design development through a variety of verbal, visual, and written formats.
- Identify and follow accepted site engineering standards in landscape architecture projects.

Curriculum Map for B.L.A. in Landscape Architecture

Learning Outcomes	Core Courses	Assessment Measures
Describe and use design processes, principles, and theories in a landscape project.	LAR 1014: Landscape Architecture Foundation Design Laboratory LAR 2025: Landscape Architecture Design Studio, Place, Process and People LAR 2026: Landscape Architecture Design Studio, Place, Process and People LAR 4014: Design and Construction Documentation LAR 4084: Landscape Design and Planning Studio LAR 4094: Senior Project	<u>Formative:</u> Design project or site-scale design project (for example, develop a design that spatially expresses 2 and 3-dimensional space). <u>Summative:</u> Senior project presentation (for example, presentation of final design development plan and its integration and response to elements of the built environment)
Employ design processes and methodologies used in landscape architectural practices.	LAR 1014: Landscape Architecture Foundation Design Laboratory LAR 2025: Landscape Architecture Design Studio, Place, Process and People LAR 2026: Landscape Architecture Design Studio, Place, Process and People LAR 4014: Design and Construction Documentation LAR 4084: Landscape Design and Planning Studio LAR 4094: Senior Project	<u>Formative:</u> Individual and team design projects (for example, presentation of a site design solution demonstrating use of the design process). <u>Summative:</u> Senior project substantial presentation (for example, the final senior project to demonstrate all steps of the design process).
Evaluate the context of a landscape architecture project (i.e., political, social, cultural, and natural sciences) using appropriate analytical techniques.	LAR 1014: Landscape Architecture Foundation Design Laboratory LAR 2025: Landscape Architecture Design Studio, Place, Process and People LAR 2026: Landscape Architecture Design Studio, Place, Process and People	<u>Formative:</u> Project presentation (for example, design project to demonstrate results of a natural systems analysis into the design of a site). <u>Summative:</u>

	LAR 4014: Design and Construction Documentation LAR 4084: Landscape Design and Planning Studio LAR 4094: Senior Project	Senior project in-progress presentation (for example, the project development presentation demonstrates analysis tools and techniques), course group project report and presentation (for example, development of a project management plan for a design and implementation project).
Identify, define, and creatively solve design and planning problems relevant to a design project.	LAR 2025: Landscape Architecture Design Studio, Place, Process and People LAR 2026: Landscape Architecture Design Studio, Place, Process and People LAR 4014: Design and Construction Documentation LAR 4084: Landscape Design and Planning Studio LAR 4094: Senior Project	<u>Formative:</u> Team design project (for example, presentation of design and planning problems addressed in a site design solution for a community park or a town's park or open space system). <u>Summative:</u> Senior project presentation (for example, final presentation demonstrates site design development criteria and a solution in response to identified design and planning problems)
Employ design elements and landscape design principles to iteratively create landscape design alternatives.	LAR 1014: Landscape Architecture Foundation Design Laboratory LAR 2025: Landscape Architecture Design Studio, Place, Process and People LAR 2026: Landscape Architecture Design Studio, Place, Process and People LAR 4014: Design and Construction Documentation LAR 4084: Landscape Design and Planning Studio LAR 4094: Senior Project	<u>Formative:</u> In-progress project presentation (for example, demonstration of design alternatives responding to range of natural and human systems, and landscape performance expectations such as landform, physical and social accessibility, spatial needs, and beauty). <u>Summative:</u> Senior project in-progress presentation (for example, the project development presentation demonstrates iterative explorations of

		design criteria and form responses such as programmatic development for specific site uses, circulation systems, surface water management, and responses to regulatory codes.)
Incorporate community needs, goals, and values into a design project.	LAR 2025: Landscape Architecture Design Studio, Place, Process and People LAR 2026: Landscape Architecture Design Studio, Place, Process and People LAR 4014: Design and Construction Documentation LAR 4084: Landscape Design and Planning Studio	<u>Formative:</u> Presentation of individual and team design projects integrating community values and expectations (for example, working with representatives of town government and citizens to gather community input which then informs development and presentation of a conceptual park, street, or community design proposal). <u>Summative:</u> Team site planning project (for example, design development and planning demonstrating integration of stakeholder collaboration).
Design objects and space to create a desired “sense of place” (e.g., the emotive bonds and attachments people develop or experience in particular locations and environments) at scales ranging from the home to the nation.	LAR 1014: Landscape Architecture Foundation Design Laboratory LAR 2025: Landscape Architecture Design Studio, Place, Process and People LAR 2026: Landscape Architecture Design Studio, Place, Process and People LAR 4014: Design and Construction Documentation LAR 4094: Senior Project	<u>Formative:</u> Project presentation (for example, a graphic and oral presentation of the sensory characteristics of a site). <u>Summative:</u> Project presentation (for example, a visual and oral presentation of the sensory qualities of case studies relevant to a site design project).
Communicate design ideas and design development through a variety of verbal, visual, and written formats.	LAR 1014: Landscape Architecture Foundation Design Lab	<u>Formative:</u> Presentation of design work in appropriate format such as sketchbook, model, or

	<p>LAR 2025: Landscape Architecture Design Studio, Place, Process and People</p> <p>LAR 2026: Landscape Architecture Design Studio, Place, Process and People</p> <p>LAR 4014: Design and Construction Documentation</p> <p>LAR 4084: Landscape Design and Planning Studio</p> <p>LAR 4094: Senior Project</p>	<p>computer representation (for example, scaled physical models presenting development of 3-dimensional spatial order).</p> <p><u>Summative:</u> Senior project presentation (for example, use of hand and digital drawings, and models to represent design and decision-making in the final design project)</p>
<p>Identify and follow accepted site engineering standards in their work.</p>	<p>LAR 2025: Landscape Architecture Design Studio, Place, Process and People</p> <p>LAR 2026: Landscape Architecture Design Studio, Place, Process and People</p> <p>LAR 4084: Landscape Design and Planning Studio</p> <p>LAR 4014: Design and Construction Documentation</p> <p>LAR 4094: Senior Project</p>	<p><u>Formative:</u> Project presentation (for example, identification and application of landform and grading standards in a proposed site plan or identification and application of surface water best management practices with sense of place design objectives in a site plan).</p> <p><u>Summative:</u> Project presentation (for example, identification and integration of surface water best management practices and construction techniques with sense of place design objectives in a site plan).</p>

Employment Skills

All graduates of the proposed B.L.A. in Landscape Architecture program will be able to:

- Meet with clients, engineers, and building architects to understand the requirements of a project.
- Create detailed landscape plans, drawings, and specifications for various project scales, including parks, residential properties, commercial developments, and public spaces.
- Design and assess community-scale design and planning proposals.
- Conduct site assessments to understand existing conditions, constraints, and opportunities.
- Analyze environmental reports on land conditions, such as drainage and energy usage.

- Create landform grading and drainage solutions meeting contemporary regulations and standards.
- Integrate sustainable design principles, including the use of native plants, energy-efficient lighting, and water conservation techniques, into landscape designs.
- Monitor the progress of projects, inspect work on-site, and ensure that the final product aligns with the design specifications and quality standards.
- Ensure that landscape projects meet all local, state, and federal regulations and obtain necessary permits as required.

Effect on Existing Degree Programs

The proposed B.L.A. in Landscape Architecture is related to the existing B.L.A. in Landscape Architecture degree program at Virginia Tech. The existing B.L.A. in Landscape Architecture degree program will close as a result of the initiation and operation of the proposed degree program. The documentation for the intent to discontinue will be sent as a separate document with the proposed new degree program.

Justification for the Proposed Program

Response to Current Needs (Specific Demand)

Landscape architecture is a broad field of study and profession that provides both function and aesthetics in the built environment. As population density increases and natural green areas disappear, a cumulative need to balance community development with environmental impacts is evident in many urban and suburban areas. The proposed B.L.A. in Landscape Architecture degree program will meet this need by preparing students with the necessary knowledge and skills to design, plan, and manage landscape systems that support human use and environmental sustainability.

A need exists for creating landscapes that are useful to people while also supportive of the natural environment. The proposed program responds to the current need for education in the development of built environments that consider impacts to the natural environment. The current needs in Virginia and nationally include: 1) industry demand for professionals with the knowledge and skills to design functional outdoor spaces, and 2) industry demand for professionals who can create sustainable landscape systems that are harmonious with the natural environment.

Design Functional Outdoor Spaces

The American Society of Landscape Architects (ASLA) describes landscape architecture as a field of practice that “involves the planning, design, management, and nurturing of the built and natural environments.”³ Professionals in landscape architecture, landscape architects, use design principles to create outdoor spaces on a variety of scales from the small, backyard project to the multifaceted, urban landscape system of a city. Regardless of the size or location of the landscape project, it should be functional and meet the goals of those who will use it.

³ American Society of Landscape Architects (n.d.). *What is Landscape Architecture?* Accessed 14 November 2023, <https://www.asla.org/aboutlandscapearchitecture.aspx>

Landscape architects work with clients to understand the goals of the project, analyze the site, and design the space so that it is functional for the users. Aesthetics, maintenance, and the ecosystem of the project's environment are also critical elements that landscape architects incorporate into the design process. For example, a landscape architect providing services for a residential backyard project would need to understand the planned usages of the space (e.g., garden area, pool, family recreation) and the users' ability to maintain the area. For a functional, low maintenance garden area, the landscape architect would strive to design the project for efficient space usage and maximize the use of native plants. Selecting visually attractive plants and shrubbery that are native to the project area reduces water costs and chemical applications.⁴

Homeowners can use landscape architects to assist in designing spaces that not only enrich the experience of living in the home but serve several additional purposes. For example, a variety of outdoor living spaces features such as fire pits, outdoor kitchens, installed seating, and patios can not only positively impact the function and enjoyment of the space but can also increase the value of the property. In fact, the American Society of Landscape Architects predicts that investing in outdoor landscaping can increase the value of the home by as much as 15% over comparable homes.⁵ Further, landscape architects can assist a homeowner in designing outdoor spaces that include aesthetically pleasing and strategically placed trees and large shrubbery to “lower energy bills by reducing heating and cooling costs”.⁶ Virginia Tech's proposed B.L.A. in Landscape Architecture will produce graduates that will be trained to assess the needs of the clients, evaluate the utility of the space, and design a functional landscape project.

Create Sustainable Landscape Systems

Landscape architects play an essential role in shaping the environment by designing sustainable, resilient, and ecologically friendly spaces. Working with city planners, horticulturists, engineers, ecologists, and other professionals such as lighting and irrigation designers⁷, landscape architects play an important role in environmental sustainability by designing and implementing projects that respect both the needs of people and of the environment. Landscape architects ensure the “functionality of the project is not lost while keeping it in tune with the environment and while addressing the needs of the user effectively. The environment cannot be fully controlled but it can be mediated well for our advantage, which is what the landscape architects are trained for.”⁸

In Phoenix, Arizona, for example, even though the city is “accustomed to a hot desert climate,” “temperatures are rising due to global heating – made worse by decades of unchecked urban development that created a sprawling heat island. In 2021, the city created a dedicated extreme heat office to tackle the rising death toll and make the stifling urban landscape more livable by

⁴ American Society of Landscape Architects (n.d.). *Residential Design: 10 Reasons to hire a landscape architect*. Accessed 14 November 2023, <https://www.asla.org/reasonstohire.aspx>

⁵ Ibid.

⁶ Ibid.

⁷ Holmes, Damian (April 27, 2022). World Landscape Architecture. *Why become a landscape architect?* Accessed 14 November 2023, <https://worldlandscapearchitect.com/why-become-a-landscape-architect/?v=7516fd43adaa>

⁸ Tibrewal, Anchal (n.d.). Rethinking the Future. *The growing relevance of landscape architecture*. Accessed 14 November 2023, <https://www.re-thinkingthefuture.com/rtf-fresh-perspectives/a1238-the-growing-relevance-of-landscape-architecture/>

increasing tree cover and built shade.”⁹ In bachelor-level degree programs, students are trained to help design projects to help solve problems such as these using elements of the natural landscape in urban environments. Such projects are critical in urban environments “where the concrete structures increase heat, and their density doesn’t not [sic] allow for open green spaces. Small parks, known as ‘Pocket parks,’ are a good solution here. They provide shade from the sun and a quiet peaceful place to go in a noisy urban environment.”¹⁰

“Landscape architecture is about maintaining the balance between ecology and humankind. To address the deteriorating balance of our relationship with the environment, a need for landscape architecture has become urgent.”¹¹ Landscape architects can design landscapes that support natural irrigation systems, reduce runoff and seasonal flooding, and promote groundwater recharge through elements such as permeable paving, vegetated swales and rain gardens, and native plants and vegetation. Landscape architects are needed to plan and design environments that can “improve the human and environmental health” in communities.¹² Graduates of the proposed degree program will be trained to design environments that plan for and support the natural vegetation and environment of the landscape project. As landscape architects, graduates will be able to design landscape systems that use native plants and incorporate the critical facets of function with natural environment sustainability.

Employment Demand

Graduates of the proposed B.L.A. in Landscape Architecture degree program will be qualified to plan and design outdoor areas as landscape architects. Graduates will be prepared to work in public and private businesses such as construction companies, public parks and recreation divisions, and engineering design firms that seek to create outdoor spaces that are functional, attractive, and not harmful to the environment.

According to the U.S. Bureau of Labor Statistics (BLS), a 1% growth in employment demand is predicted for landscape architects from 2022-2032. The BLS states:

“Employment of landscape architects is projected to show little or no change from 2022 to 2032. Despite limited employment growth, about 1,800 openings for landscape architects are projected each year, on average, over the decade. Most of those openings are expected to result from the need to replace workers who transfer to different occupations or exit the labor force, such as to retire.”¹³

⁹ Lankhani, Nina (November 11, 2023). The Guardian. *Deadliest year on record as Phoenix heat fatalities rise by 50%*. Accessed 14 November 2023, <https://www.theguardian.com/us-news/2023/nov/11/phoenix-heat-deaths-record-climate-crisis#:~:text=Heat%20deaths%20surged%20by%2050,hottest%20city%2C%20official%20figures%20show>.

¹⁰ Greentumble. (December 10, 2016). 10 reasons why landscape architecture is important. Accessed 14 November 2023, <https://greentumble.com/10-reasons-why-landscape-architecture-is-important>

¹¹ Tibrewal, Anchal (n.d.). Rethinking the Future. *The growing relevance of landscape architecture*. Accessed 14 November 2023, <https://www.re-thinkingthefuture.com/rtf-fresh-perspectives/a1238-the-growing-relevance-of-landscape-architecture/>

¹² American Society of Landscape Architects (n.d.). *What is Landscape Architecture?* Accessed 14 November 2023, <https://www.asla.org/aboutlandscapearchitecture.aspx>

¹³ The U.S. Bureau of Labor Statistics. Occupational Outlook Handbook. <https://www.bls.gov/ooh/architecture-and-engineering/landscape-architects.htm#tab-6>

To practice as a landscape architect, professionals “usually need at least a bachelor’s degree in landscape architecture and a state-issued license, which typically requires completion of an internship.”¹⁴ The proposed B.L.A. degree program in Landscape Architecture fulfills these requirements. The program includes an experiential learning requirement that spans two semesters in which the students develop and implement a comprehensive design study or project in the context of specific concerns of the built environment.

The Virginia Employment Commission, Labor Market Information (LMI) shows demand in Virginia for landscape architects. The data for landscape architects indicates low demand for landscape architects.

Virginia Employment Commission, Labor Market Information 2020-2030 (10-Yr)

Occupation	Base Year Employment	Projected Employment	Total Projected Difference	Total Percent Change	Annual Change	Education
Landscape Architects ¹⁵	839	861	22	2.622	2	Bachelor’s Degree

See Appendix E for employment announcements.

Duplication

Virginia Tech is the only public institution in Virginia that offers a Bachelor of Landscape Architecture (B.L.A.) in Landscape Architecture. No other public institution offers a similar or related degree program.

Student Demand

Evidence of student demand comes from one source: student enrollment in existing Bachelor of Landscape Architecture (B.L.A.) in Landscape Architecture degree program.

Fall Enrollment in Existing degree program, 2019 to 2023

	2019	2020	2021	2022	2023
Fall Enrollment	64	77	81	70	68

¹⁴ The U.S. Bureau of Labor Statistics. Occupational Outlook Handbook. <https://www.bls.gov/ooh/architecture-and-engineering/landscape-architects.htm#tab-4>

¹⁵ Virginia Employment Commission. Long-term occupational Virginia 2020-2030 Projections, Landscape Architects. In *Long- and short-term occupational projections*. <https://virginiaworks.com/occupational-projections>

**State Council of Higher Education for Virginia
Summary of Projected Enrollments in Proposed Program**

Year 1		Year 2		Year 3		Year 4 Target Year (2-year institutions)			Year 5 Target Year (4-year institutions)		
2024 - 2025		2025 - 2026		2026 - 2027		2027 - 2028			2028 - 2029		
HDCT	FTES	HDCT	FTES	HDCT	FTES	HDCT	FTES	GRAD	HDCT	FTES	GRAD
<u>70</u>	<u>70</u>	<u>70</u>	<u>70</u>	<u>70</u>	<u>70</u>	<u>70</u>	<u>70</u>	_____	<u>70</u>	<u>70</u>	<u>20</u>

Assumptions:

Retention percentage: 93%

Full-time students: 100%; Part-time students: 0%

Full-time students credit hours per semester: 15-17

Full-time students graduate in 4 years

Summer semester is required.

Projected Resource Needs for the Proposed Program

Resource Needs

Virginia Tech has all of the resources necessary to initiate and sustain the proposed B.L.A. in Landscape Architecture. The following subsections detail the resources required to operate the program from its initiation in the fall 2024 semester through the target year 2028-29. Assessments of the need for full-time, part-time, and adjunct faculty are based on a ratio of 1.0 FTE of instructional effort for every 18 FTE students in lower division courses and 11 FTE students in upper division courses. The proposed program will require a total of 5.0 FTE faculty instructional effort in 2024-25 and remain 5.0 FTE faculty instructional effort by the target year of 2028-29.

Full-time Faculty

Five (5) faculty in the School of Design will dedicate 50% or more of their time to teach core and required courses in the proposed degree program. The five faculty currently teach in the existing B.L.A. in Landscape Architecture degree program. In the initiation year, five faculty members will dedicate 1.0 FTE each to the proposed program for a total of 5.0 faculty FTE. This level of faculty FTE effort of 5.0 FTE will remain constant through the target enrollment year.

The proposed program will require 5.0 FTE of instructional effort to launch and will remain constant through the target year.

Part-time Faculty

No part-time faculty members are required to initiate or sustain the proposed degree program.

Adjunct Faculty

No adjunct faculty are required to initiate or sustain the proposed degree program.

Graduate Assistants

No graduate assistants are required to initiate or sustain the proposed degree program.

Classified Positions

A program coordinator currently employed by the School of Design will support the proposed degree program. The program will require 0.25 FTE of classified support to initiate, and this level of support will remain constant through the target year. The salary for the program coordinator will be \$10,750 and benefits \$5,447 for a total of \$16,197.

Equipment (including computers)

No new equipment, including computers, is required to initiate or sustain the proposed degree program.

Library

No additional library resources are required to initiate or sustain the proposed degree program. The library has an adequate collection to support the proposed program. Resources include journals and publications for landscape architecture. As a member of the Virtual Library of Virginia (VIVA), on-line access to journals is also available for the proposed degree program.

Telecommunications

No additional telecommunications costs are needed to initiate or sustain the proposed degree program.

Space

No additional space is required to initiate or sustain the proposed degree program.

Targeted Financial Aid

No targeted financial aid is required to initiate or sustain the proposed degree program.

Special Tuition or Fee Charges

The School of Design in the College of Architecture, Arts, and Design has a mandatory fee of \$750 per full-time student per semester to cover costs associated with design studios, collaborative workspaces, material shops, and printing facilities used by design students, as well as funding for required and optional co-curricular activities. Based on the current and projected enrollment, it is anticipated that the proposed B.L.A. in Landscape Architecture program will receive \$105,000 annually from the school fee.

Other Resources (specify)

No other resources are needed to initiate or sustain the proposed degree program. No new or additional resources will be needed for marketing.

Funds to Initiate and Operate the Degree Program

Figures provided in the table below will be compared to SCHEV funding estimates using the current base adequacy model. This comparison will serve as a reference for the estimated costs. If there are large discrepancies, SCHEV may request additional clarification to ensure the institution's assumptions are correct or require modifications as a condition of approval.

Note: Institutions must use the recommended student-faculty ratio when estimating FTE enrollments and required faculty FTEs.

Cost and Funding Sources to Initiate and Operate the Program			
Informational Category		Program Initiation Year 2024 - 2025	Program Full Enrollment Year 2028 - 2029
1.	Projected Enrollment (Headcount)	70	70
2.	Projected Enrollment (FTE)	70	70
3.	Projected Enrollment Headcount of In-State Students	50	50
4.	Projected Enrollment Headcount of Out-of-State Students	20	20
5.	Estimated Annual Tuition and E&G Fees for In-state Students in the Proposed Program	\$689,450	\$689,450
6.	Estimated Annual Tuition and E&G Fees for Out-of-State Students in the Proposed Program	\$668,780	\$668,780
7.	Projected Total Revenue from Tuition and E&G Fees Due to the Proposed Program	\$1,358,230	\$1,358,230
8.	Other Funding Sources Dedicated to the Proposed Program (e.g., grant, business entity, private sources)	\$	\$

Part V: Certification Statements

1. A request of any kind will be submitted to the Virginia General Assembly for funds to initiate and/or maintain the proposed degree program.

Yes

No

If “Yes” is checked, include narrative text to describe when the request will be made, how much will be requested, what the funds will be used for, and what will be done if the request is not fulfilled. Additional information may be required.

2. The proposed degree program is included in the institution’s most recent six-year plan.

Yes

No

If “No” is checked, include narrative text to explain why the program is being advanced at the present time despite not being included in the six-year plan.

Virginia Tech proposed the Bachelor of Landscape Architecture (B.L.A.) in Landscape Architecture degree program as a program modification under the State Council of Higher Education for Virginia (SCHEV) Academic Programs at Public Institutions: Policies and Procedures for Approvals and Changes policy. It was not known that the degree program would not meet SCHEV policy requirements for a program modification. Therefore, the degree program was not included as a new degree program in the institution’s six-year plan.

3. The institution’s governing board has been provided information regarding duplication (if applicable) and labor market projections as part of its approval action.

Yes

No

If “No” is checked, include narrative text to explain why the governing board has not been provided the information.

The institution's Chief Academic Officer attests to the accuracy of the above statements.

Name (Printed)

Signature

Date

Appendices A – D

Appendix A – Sample Plan of Study

Full-time Student

Freshman Fall	Credits	Freshman Spring	Credits
ARCH 1015: Foundation Design Laboratory	6	LAR 1014: Landscape Architecture Foundation Design Laboratory	6
LAR 1264: Seeing, Understanding, and Representing Landscape and the Built Environment	3	LAR 1254: Environment and Natural Systems	3
ENGL 1105: First-Year Writing	3	ENGL 1106: First-Year Writing	3
General Education Course: Quantitative and Computational Thinking	3	General Education Course: Quantitative and Computational Thinking	3
Total	15	Total	15
Sophomore Fall	Credits	Sophomore Spring	Credits
LAR 2025: Landscape Architecture Design Studio, Place, Process and People	6	LAR 2026: Landscape Architecture Design Studio, Place, Process and People	6
LAR 2154: Landscape Architecture History	3	LAR 3164: Design in Detail: Materials, Methods, and Assembly	4
Plant Science Restricted Elective	3	LAR 3154: Watershed Sensitive Site Design and Construction	4
LAR 2164: Landform Function and Aesthetics	4	GEOS 1004: Earth Science: Our Past, Present, and Future	3
Total	16	Total	17
Junior Fall	Credits	Junior Spring	Credits
LAR 4014: Design and Construction Documentation	6	LAR 4084: Landscape Design and Planning Studio	6
LAR 3264: People Community and Place	3	LAR 4034: Evolution of American Landscape	3
LAR 3044: Land Analysis and Site Planning	3	Earth Science Restricted Elective	3
		General Education Course: Critical Thinking in the Humanities	3
Total	12	Total	15

Junior Summer	Credits		
LAR 4154: Design Built Environment	6		
Total	6		
Senior Fall	Credits	Senior Spring	Credits
LAR 4094 Senior Project	3	LAR 4094 Senior Project	6
General Education Course: Critical Thinking in the Humanities	3	General Education Course: Reasoning in the Social Sciences	3
LAR 4244 Professional Practice in Landscape Architecture	3	General Education Course: Critical Analysis of Identity and Equity in the United States	3
LAR 4254 Theories of Landscape Architecture	3		
Total	12	Total	12

Full-Time Students

Credit Hours – Freshman – Fall Term	15
Credit Hours – Freshman – Spring Term	15
Credit Hours – Sophomore – Fall Term	16
Credit Hours – Sophomore – Spring Term	17
Credit Hours – Junior – Fall Term	12
Credit Hours – Junior – Spring Term	15
Credit Hours – Junior – Summer Term	6
Credit Hours – Senior – Fall Term	12
Credit Hours – Senior – Spring Term	12

Total Credit Hours **120**

Appendix B – Course Descriptions

Core Courses

LAR 1014: Landscape Architecture Foundation Design Laboratory (6 credits)

Immersive, interactive learning environment, design concept and process development, self, and peer assessment. Design studies in two and three dimensions across multiple scales, landscape systems, foundational design theories, principles of spatial design and techniques used to create landscape spaces, systematical exploration and communication of ideas through visual, physical, and oral communications. Prerequisite(s): ARCH 1015.

LAR 2025: Landscape Architecture Design Studio Place, Process and People (6 credits)

Landscape design and site planning including design processes, design communication, community-based design, case study methods, landscape performance. Planning, programming and design of places, analysis of site, context and design for human use, and natural systems in creative design syntheses. Prerequisite(s): LAR 1014 for LAR 2025. Corequisite(s): LAR 2164 for LAR 2025.

LAR 2026: Landscape Architecture Design Studio Place, Process and People (6 credits)

Landscape design and site planning including design processes, design communication, community-based design, case study methods, landscape performance. Master plan and site-scale planning and design incorporating multiple program elements with emphasis on social, cultural, and natural systems infrastructure of neighborhoods and communities. Prerequisite(s): LAR 2025 for LAR 2026. Corequisite(s): LAR 3154 for LAR 2026.

LAR 4014: Design and Construct Documentation (6 credits)

Links landscape architectural design and construction documents through integrating site design from schematic design through design development to construction documentation drawings and technical specifications. Landscape design and technology covered in preceding design and technology courses is combined with construction principles and practices in preparation of site design and set of construction documents. Prerequisite(s): LAR 2164, LAR 3154, LAR 3164.

LAR 4084: Landscape Design and Planning Studio (3-6 credits)

Advanced design studio addresses current land design and planning issues including global climate change across contexts and spatial scales using complex problem-solving methods of a geodesign framework. Domestic and international precedents, theories, guidelines, and regulations. Development and communication of consensus-based comprehensive plans and designs that address sustainability and resilience issues caused by climate change and others. Use of collaborative community-based design practices. Prerequisite(s): LAR 4014.

LAR 4094: Senior Project (3-6 credits)

Advanced landscape architectural design capstone course using applied research requiring development of a landscape architecture project selected and completed by the student under the direction of a faculty advisor. Landscape architecture theories and issues; design principles and processes, technological tools, and communication strategies to develop and implement a comprehensive design study or independent design project in the context of specific concerns of the built environment. Prerequisite(s): LAR 4014, LAR 4084.

Landscape Architecture Major Courses**ARCH 1015: Foundation Design Laboratory (6 credits)**

Foundation Design Lab is an immersive, interactive learning environment focused on inquiry, experimentation, discovery, and synthesis for students studying architecture, landscape architecture, interior design, and industrial design. The design lab develops self-reliance and self-critique, opens intellectual horizons, and challenges students to continually expand and deepen their aesthetic judgement and critical understanding.

LAR 1254: Environment and Natural Systems (3 credits)

Introduction to the environment, natural systems with emphasis on their relationship to urban sustainability and resilience: natural elements, structures, patterns, natural systems, ecology, and landscape ecology. Impact of human actions and decisions on the environment and natural systems from global to local scale. Application of relevant theories and methods related to the environment and natural systems in planning and design.

LAR 1264: Seeing, Understanding and Representing Landscape and the Built Environment (3 credits)

Exploration of the natural and built environment through observation, interpretation, and graphic representation of the landscape. Development of a range of graphic strategies and techniques with an emphasis on design thinking, iteration, and ethical issues expressed in the natural and built environment.

LAR 2154: Landscape Architecture History (3 credits)

Historical development of designed landscapes and landscape architecture with emphasis on western and select non-western cultures. Thematic focus on design theories, the social constructions of nature and relationships with land, ideology of landscape, experience of landscape by different social groups and cultures, landscape ethics, and parallels between site and urban design.

LAR 2164: Landform Function and Aesthetics (4 credits)

Design principles and technology related to the creation of landforms for functional, aesthetic, and environmental purposes. Landform grading techniques for integrating soils, water, vegetation, transportation systems, and structures through the design and construction processes. Evaluating landform performance for landscape resilience. Prerequisite(s): LAR 1264.

LAR 3044: Land Analysis and Site Planning (3 credits)

Concepts, principles, and processes of land analysis and evaluation for physical planning and design. Approaches to spatial problem solving with an emphasis on data collection, evaluation, and synthesis using applicable technologies such as Geographic Information Systems (GIS). Analysis and synthesis of natural and socio-cultural systems at varying scales in the site planning and design process using Geodesign method.

LAR 3154: Watershed Sensitive Site Design and Construction (4 credits)

Examines soil and water resource issues related to landscape architectural site planning and design. Key topics include watershed sensitive site design, estimation and management of storm water

runoff, rainwater conservation, design of open channel conveyances for site planning applications, and erosion and sedimentation control. Prerequisite(s): LAR 2164.

LAR 3164: Design in Detail: Materials, Methods and Assembly (4 credits)

Landscape construction knowledge and practices integrating concepts of design detailing with material selection, sustainable construction methods, and environmental performance. Concepts of landscape performance in material use and human interaction, effects on the built environment, and technical documentation. Prerequisite(s): LAR 2164.

LAR 3264: People Community and Place (3 credits)

Advanced course focusing on landscape/behavior interactions and implications for the design of outdoor environments at site and community scales for sustainable communities. Systems approach to engage various community design program elements, including social, land use, physical infrastructure, public space, movement, energy, and natural systems, in place-making strategies for diverse populations. Methods of community participation and engagement used in community-based design practices. Pre: Junior standing.

LAR 4034: Evolution of the American Landscape (3 credits)

Examine and interpret physical changes in the rural and urban landscapes of the United States as they reflect cultural values; technologic innovations; immigration patterns; the roles of diverse professions over time; changing views of use, conservation, and preservation of national resources; and expectations for places of live, work and play using an iterative writing process and reflective course discussions.

LAR 4154: Design Studies of the Built Environment (6 credits)

Design study of built environment using comparative case studies of relationships between society and culture and the physical and built environments, as seen across scales. Design and use analysis and documentation of elements of the physical environment, exploration of interface between building, people, and landscape systems. Independent case study research project includes on-site field investigations, design research and final documentation of findings. Pre: Junior standing.

LAR 4244: Professional Practice in Landscape Architecture (3 credits)

Introduction to scope and diversity of the building enterprise, addressing private and public macroeconomic, industrial, technical, professional, and regulatory institutions. Analysis of historic evaluation of professional roles and practices; emergence of new modes of practice, including innovative facilities procurement methods.

LAR 4254: Theories of Landscape Architecture (3 credits)

Critical examination of theories relevant to landscape architectural design and the inter-relationship between theory and practice. Evolution of theory with respect to built works. Overview of concurrent design theories and philosophies in the related arts. Pre-requisite: Senior standing or instructor's permission.

Restricted Elective Courses

Earth Science

ENSC 3134: Soils in the Landscape (3 credits)

A study of soils as functional landscape components, emphasizing their physical, chemical, mineralogical, and biological properties in relation to plant growth, nutrient availability, land-use management, and soil and water quality.

GEOS/CSES/GEOG 3304: Geomorphology (3 credits)

Examines the variety of landforms that exist at the earth's surface. Detailed investigation of major processes operating at the earth's surface including: tectonic, weathering, fluvial, coastal, eolian, and glacial processes. Field excursion. Prerequisite(s): GEOG 1104 or GEOS 1004 or GEOS 2104 or GEOS 2024.

FREC 4354: Forest Soil and Watershed Management (3 credits)

Properties and processes of soil and water in forests. Emphasis on management for the delivery of ecosystem services at local to global scales. Includes analysis and interpretation in field and laboratory. Prerequisite(s): CSES 3114 or FREC 2004 or ENSC 3114 or GEOS 3614 or CSES 3134.

GEOS 3614/ CSES 3114: Soil Physical and Hydrological Properties (3 credits)

Characterization of soils as a natural resource emphasizing their physical, chemical, mineralogical, and biological properties in relation to nutrient availability, fertilization, plant growth, land-use management, waste application, soil and water quality, and food production. For CSES, ENSC, and related plant- and earth-science majors. Partially duplicates CSES 3134. Prerequisite(s): CHEM 1036.

Plant Science

HORT 3325: Woody Landscape Plants (3 credits)

Functions, growing requirements, hardiness, problems, and methods of identification of landscape plant materials. Commonly available woody landscape plants.

HORT 3326: Woody Landscape Plants (3 credits)

Functions, growing requirements, hardiness, problems, and methods of identification of landscape plant materials. Native and rare woody landscape plants.

FREC 2314: Forest Biology and Dendrology (2 credits)

Introduction to the botany, physiology, genetics, and silvics of important forest trees of North America. Prerequisite(s): BIOL 1006 or BIOL 1106. Corequisite(s): FREC 2324.

FREC 2324: Dendrology Laboratory (1 credit)

Field identification of trees of North America with particular emphasis on trees native to the Eastern United States.

Appendix C – Faculty Curriculum Vitae (abbreviated)

Clements, Terry, M.L.A. in Landscape Architecture, 1993, University of California at Berkeley, Professor. Specialization: Design education and pedagogy, community engagement, cultural landscape studies, visual resource stewardship and assessment.

Curulli, Irene, Ph.D. in Architecture, 1997, Università degli Studi di Napoli Federico II, Associate Professor of Practice. Specialization: Industrial landscapes, industrial waterscapes, heritage and climate change, resilient landscape design and planning, research, and professional outreach.

Ha, Jaeyoung, Ph.D. in Environmental Design and Planning, 2022, Kansas State University, Assistant Professor. Specialization: Human health and nature, immersive visualization technology, landscape ecology, climate resilience design.

Kim, Mintai, Ph.D. in Environmental Planning, 2001, University of California at Berkeley, Professor. Specialization: Nightscape research and geodesign, community and environmental resilience in the face of sea-level rise.

Rosier, Shaun Rosier, PhD in Landscape Architecture, 2021, Victoria University of Wellington, Assistant Professor of Landscape Architecture. Specialization: Design technique and representation, post-mining landscapes, landscape-led urbanism, landscape aesthetics, design and practice-led/based research.

Appendix D – Advisory Board

Name	Title	Company
Janit Llewellyn Allen, PLA	Park Planning and Sustainability Consultant	Private Consultant (Richmond, VA)
William D. Almond, PLA, FASLA	Principal Landscape Architect	WPL (Virginia Beach, VA)
Lauren Debridge, LA, ASLA	Associate and Senior Designer	LandDesign (Charlotte, NC)
Amol Deshpande, PLA, AICP	Principal Architect and Partner	LSG Landscape Architecture (Tysons, VA)
Kona Gray, PLA, FASLA	Principal Architect	EDSA (Fort Lauderdale, Florida)
Om Khurjekar, PLA, ASLA, LEED AP+	Principal and Owner	Hord Coplan Mach (Baltimore, MD)
Salvatore Musarra, PLA, ASLA, LEED AP	Principal Retired	Kimley-Horn (Richmond, VA)
G. Glenn Oder, FASLA	Executive Director	Fort Monroe Authority (Hampton, VA)
PJ Scully, PLA, ASLA	Planning Coordinator Department of Planning and Community Development	City of Virginia Beach (Virginia Beach, VA)
Steven Semones, LA	Executive Vice President and Regional Director	Balzer and Associates, (Christiansburg, VA)
Graham Smith, LA, ASLA	Principal Architect and Owner	Site Collaborative (Raleigh, NC)
Stephanie Sparks	Specialist Retired	Construction and Play Specialist (Stevenson, MD)
Idalina Walker	Director of Outreach and Partnership	Friends of Southwest Virginia (Castlewood, VA)
Caren Yglesias, PhD, AIA, Affil., ASLA	Author and Teacher	University of Maryland (Baltimore, MD)