

The proposed degree program will require an additional total of 2.35 FTE instructional effort of part-time faculty by the target year.

Three current faculty members from the Department of Psychology will be reallocated to dedicate 0.35 FTE instructional effort each to the proposed program for a total of 1.05 FTE.

Two current faculty members from the Department of Economics will be reallocated to dedicate 0.35 FTE instructional effort each to the proposed program for a total of 0.70 FTE.

Two current faculty members from the Department of Statistics will be reallocated to dedicate 0.30 FTE instructional effort to the proposed program for a total of 0.60 FTE.

Adjunct Faculty

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

Graduate Assistants

In the initial year, 2020-2021, two new graduate teaching assistants (GTA) will be needed to support the proposed degree program. Each GTA will receive a salary of \$10,775 and fringe benefits of \$1,212 per academic year. The 2 GTAs will receive salaries of \$21,550 and fringe benefits of \$2,424 for a total of \$23,974.

By the target year, 2024-2025, a total of 4 graduate teaching assistants (GTA) will be needed to support the proposed degree program. Each GTA will receive a salary of \$10,775 and fringe benefits of \$1,212 per academic year. The 4 GTAs will receive salaries of \$43,100 and fringe benefits of \$4,848 for a total of \$47,948.

Classified Positions

In the initial year, 2020-2021, one new faculty member will be hired to dedicate 0.25 FTE administrative effort to the proposed degree program as the program director. The faculty member will be hired at the associate or full professor rank. The representative portion of the faculty member's salary and fringe benefits as program director equal \$55,000 in salary and \$18,150 for a total of \$73,150.

In the initial year, 2020-2021, one professional advisor will be hired to support the proposed degree program. The advisor will be hired with an approximate salary of \$45,000 and fringe benefits of \$24,525 for a total of \$69,525.

Targeted Financial Aid

No targeted financial aid will be available or is needed to initiate and sustain the proposed program.

Equipment (including computers)

One new computer will be purchased to support the new professional advisor hire for the proposed program. The computer is estimated at a cost of \$2,500.

One new computer will be purchased to support the new faculty member who will serve as the program director for the proposed program. The computer is estimated at a cost of \$4,000

Existing office furniture will be used for both the new professional advisor and the new faculty member.

Library

No new library resources are needed to initiate or sustain the proposed degree program. The Virginia Tech Library has adequate and appropriate resources for faculty and student research, teaching, and learning to support the proposed degree program in the form of books, journals, and online journals and subscriptions such as the Virtual Library of Virginia (VIVA).

Telecommunications

No additional telecommunications costs are needed to initiate or sustain the proposed degree program. Existing telecommunication systems are in place and will be used for the new professional advisor position and for the new program director hire.

Space

No new space is needed to initiate and sustain the proposed degree program. Office space is available in the College of Science for the new professional advisor position, and in the Academy of Integrated Science as well as the home department for the new director hire.

Other Resources (specify)

In the initial year, 2020-2021, the 2 Graduate Teaching Assistants (GTAs) will be provided tuition remission at the rate of \$17,739 per student per academic year. The tuition remission for the 2 GTAs will total \$35,478.

By the target year, 2024-2025, two additional GTAs will be needed for a total of 4 GTAs. The tuition remission for the 4 GTAs will total \$70,956 per academic year. The tuition remission for the 4 GTAs will be approximately \$319,572 cumulatively.

Resource Needs: Parts A-D

Part A: Answer the following questions about general budget information.

- Has the institution submitted or will it submit an addendum budget request to cover one-time costs? Yes No
- Has the institution submitted or will it submit an addendum budget request to cover operating costs? Yes No
- Will there be any operating budget requests for this program that would exceed normal operating budget guidelines (for example, unusual faculty mix, faculty salaries, or resources)? Yes No
- Will each type of space for the proposed program be within projected guidelines? Yes No
- Will a capital outlay request in support of this program be forthcoming? Yes No

Part B: Fill in the number of FTE and other positions needed for the program

	Program Initiation Year 2020 – 2021		Expected by Target Enrollment Year 2024 – 2025	
	On-going and reallocated	Added (New)	Added (New)***	Total FTE positions
Full-time faculty FTE*	1.50		0.75	2.25
Part-time faculty FTE **	0.25		2.35	2.60
Adjunct faculty				0.00
Graduate assistants (HDCT)		2.00	2.00	4.00
Classified positions		1.25		1.25
TOTAL	1.75	3.25	5.10	10.10

*Faculty dedicated to the program. **Faculty effort can be in the department or split with another unit.

*** Added **after** initiation year

Part C: Estimated resources to initiate and operate the program

	Program Initiation Year 2020-2021		Expected by Target Enrollment Year 2024-2025	
Full-time faculty	1.50	0.00	0.75	2.25
salaries	\$142,500		\$165,000	\$307,500
fringe benefits	\$47,025		\$54,450	\$101,475
Part-time faculty (faculty FTE split with unit(s))	0.25	0.00	2.35	2.60
salaries	\$25,000		\$300,000	\$325,000
fringe benefits	\$8,250		\$99,000	\$107,250
Adjunct Faculty	0.00	0.00	0.00	0.00
salaries				\$0
fringe benefits				\$0
Graduate assistants	0.00	2.00	2.00	4.00
salaries		\$21,550	\$21,550	\$43,100
fringe benefits		\$2,424	\$2,424	\$4,848
Classified Positions	0.00	1.25	0.00	1.25
salaries		\$100,000		\$100,000
fringe benefits		\$42,675		\$42,675

Personnel cost				
salaries	\$167,500	\$121,550	\$486,550	\$775,600
fringe benefits	\$55,275	\$45,099	\$155,874	\$256,248
Total personnel cost	\$222,775	\$166,649	\$642,424	\$1,031,848
Equipment		\$6,500		\$6,500
Library				\$0
Telecommunication costs				\$0
Other costs		\$35,478	\$284,094	\$319,572
TOTAL	\$222,775	\$208,627	\$926,518	\$1,357,920

Part D: Certification Statement(s)

The institution will require additional state funding to initiate and sustain this program.

Yes _____
Signature of Chief Academic Officer

No _____
Signature of Chief Academic Officer

Please complete Items 1, 2, and 3 below.

1. Estimated \$\$ and funding source to initiate and operate the proposed program.

Funding Source	Program initiation year 2020 - 2021	Target enrollment year 2024 - 2025
Reallocation within the department <i>(Note below the impact this will have within the department.)</i>	\$0	\$0
Reallocation within the school or college <i>(Note below the impact this will have within the school or college.)</i>	\$431,402	\$1,357,920
Reallocation within the institution <i>(Note below the impact this will have within the institution.)</i>	\$0	\$0
Other funding sources <i>(Specify and note if these are currently available or anticipated.)</i>	\$0	\$0

2. Statement of Impact/Funding Source(s). A separate detailed explanation of funding is required for each source used and a statement of impact on existing resources.**Reallocation within the school or college**

The College of Science will fund the proposed degree program through a combination of salary savings (e.g., retirements and vacated faculty lines) and from Virginia Tech's incentive-based performance budget which generates revenue directly to the college.

In the initial year, 2020-2021, the College of Science will reallocate existing resources to fund the hires of the program director position (0.25 FTE) and the professional advisor position (1.0 FTE). The portion of the program director's total salary dedicated to administrative duties for the proposed program equals \$55,000 with fringe benefits of \$18,150 for a total of \$73,150. The professional advisor will receive \$45,000 in salary and \$24,525 in fringe benefits for a total of \$69,525. The total combined salary costs for the new hires in the initial year equal \$100,000 and fringe benefits of \$42,675 for a total cost of \$142,675.

The college has sufficient funds to support the equipment costs (including computers) for the new program director position and the professional advisor position totaling \$6,500.

In the initial year, 2020-2021, the college will reallocate resources for one faculty member who currently teaches in the Department of Psychology to dedicate 1.0 FTE instructional effort to the proposed degree program. The faculty member's salary will be \$95,000 and fringe benefits of \$31,350 for a total cost of \$126,350.

In the initial year, 2020-2021, the college will reallocate resources for one faculty member who currently teaches in the Department of Economics to dedicate 0.5 FTE instructional effort to the proposed degree program. The portion of the faculty member's salary dedicated to the program will be \$47,500 and fringe benefits of \$15,675 for a total cost of \$63,175.

In the initial year, 2020-2021, the college will reallocate resources for one faculty member who currently teaches in the Department of Economics to dedicate 0.25 FTE instructional effort to the proposed degree program. The portion of the faculty member's salary dedicated to the program will be \$25,000 with \$8,250 in fringe benefits for a total cost of \$33,250.

In the initial year, 2020-2021, the college will reallocate resources to fund 2 graduate teaching assistants (GTAs) for the proposed degree program. Combined, the 2 GTAs will receive salaries of \$21,550 and fringe benefits of \$2,424 for a total of \$23,974.

In the initial year, 2020-2021, the college will reallocate resources to fund tuition remission for the 2 graduate teaching assistants (GTAs) for the proposed degree program. Each GTA will receive tuition remission in the amount of \$17,739 for a combined total of \$35,478.

In year 2, 2021-2022, the college will reallocate resources for the faculty member hired as the program director within the initial year to be reallocated to dedicate 0.75 FTE instructional effort to the proposed degree program. The portion of the faculty member's salary dedicated to instruction for the proposed program equals \$165,000 and \$54,450 in fringe benefits for a total of \$219,450.

By the target year, 2024-2025, the college will reallocate resources for 3 faculty members who currently teach in the Department of Psychology to dedicate 0.35 FTE each for a combined FTE of 1.05 FTE instructional effort to the proposed degree program. The representative portion of the faculty members' salaries equal \$140,000 with fringe benefits of \$46,200 for a total of \$186,200.

By the target year, 2024-2025, the college will reallocate resources for 2 faculty members who currently teach in the Department of Economics to dedicate 0.35 FTE each for a combined FTE of 0.70 FTE instructional effort to the proposed degree program. The representative portion of the faculty members' salaries equal \$90,000 with fringe benefits of \$29,700 for a total of \$119,700.

By the target year, 2024-2025, the college will reallocate resources for 2 faculty members who currently teach in the Department of Statistics to dedicate 0.30 FTE each for a combined FTE of 0.60 FTE instructional effort to the proposed degree program. The representative portion of the faculty members' salaries equal \$70,000 with fringe benefits of \$23,100 for a total of \$93,100.

By the target year, 2024-2025, the college will reallocate resources to fund 2 additional graduate teaching assistants (GTAs) for a total of 4 GTAs for the proposed degree program. The 4 GTAs will receive a total of \$43,100 in salary and \$4,848 in fringe benefits for a total of cost of \$47,948.

By the target year, 2024-2025, the college will reallocate resources to fund tuition remission for 2 additional graduate teaching assistants (GTAs) for a total of 4 GTAs for the proposed degree program. Each GTA will receive tuition remission in the amount of \$17,739. Cumulative tuition remission costs for the 4 GTAs equals \$319,572.

The College of Science and associated departments (Psychology, Economics, and Statistics) have sufficient existing resources to support the salaries and fringe benefits for the new hires and faculty reallocations and for the graduate teaching assistants' salaries, fringe benefits, and tuition remission. No additional funds will be needed because existing resources will be utilized. The reallocation of these resources will not negatively impact any other academic program in the college or college resources. The reallocation of these resources will not negatively impact any other program in the departments of Psychology, Economics, or Statistics or departmental resources.

3. Secondary Certification.

If resources are reallocated from another unit to support this proposal, the institution will **not** subsequently request additional state funding to restore those resources for their original purpose.

Agree _____
Signature of Chief Academic Officer

Disagree _____
Signature of Chief Academic Officer

Appendices

Appendix A
Sample Plan of Study

Full-time students

Year	Fall Semester	Spring Semester
First Year	General Education (3)	PSYC 1094: Principles of Psychological Research (3)
	General Education (3)	General Education (3)
	General Education (3)	General Education (3)
	General Education (3)	General Education (3)
	General Education (3)	General Education (3)
Second Year	BDS 2005: Fundamentals of Behavioral Decision Science (3)	BDS 2006: Fundamentals of Behavioral Decision Science (3)
	PSYC 2064: Introduction to Neuroscience of Behavior (3)	CMDA 2014: Data Matter (3)
	Theme 1 Restricted Elective Course (3)	Theme 2 Restricted Elective Course (3)
	General Education (3)	General Education (3)
	General Education (3)	General Education (3)
Third Year	STAT 3604: Statistics for Social Sciences (3)	ECON 3254: Analysis of Economic Data (3)
	BDS/ECON 3134: Choice and Behavior (3)	Theme 2 Restricted Elective Course (3)
	Theme 1 Restricted Elective Course (3)	General Education (3)
	Free Elective Course (3)	Free Elective Course (3)
	Free Elective Course (3)	Free Elective Course (3)
Fourth Year	Theme 1 Restricted Elective Course (3)	BDS/PSYC 4194: Predicting Social Behavior (3)
	General Education (3)	Theme 2 Restricted Elective Course (3)
	Free Elective Course (3)	Free Elective Course (3)
	Free Elective Course (3)	Free Elective Course (3)
	Free Elective Course (3)	Free Elective Course (3)

Credit Hours – First Year – Fall Term	15
Credit Hours – First Year – Spring Term	15
Credit Hours – Second Year – Fall Term	15
Credit Hours – Second Year – Spring Term	15
Credit Hours – Third Year – Fall Term	15
Credit Hours – Third Year – Spring Term	15
Credit Hours – Fourth Year – Fall Term	15
Credit Hours – Fourth Year – Spring Term	15
TOTAL CREDIT HOURS	120

Appendix B Course Descriptions

New courses are denoted with an asterisk (*).

Core Courses

PSYC 1094: Principles of Psychological Research (3 credits)

Philosophical foundation and ethical issues in psychological research. Research design and methodology. Analytic approaches to developing, understanding, interpreting psychological data.

*BDS 2005: Fundamentals of Behavioral Decision Science (3 credits)

Introduction to the major scientific models of decision making and applications to real-life situations. Economic models highlighting optimal choices and psychological models highlighting decision making tendencies. Emphasis on individual decision making in non-strategic choice settings. Probabilistic reasoning and economic model of rationality. Violations of the rational choice model, and psychological, physiological, and statistical models that accommodate this behavior. Applications to social settings and longer periods of time. Common ethical dilemmas and making ethical choices as an individual.

*BDS 2006: Fundamentals of Behavioral Decision Science (3 credits)

Introduction to the major scientific models of decision making and applications to real-life situations. Economic models highlighting optimal choices and psychological models highlighting decision making tendencies. Individual decision making in interactive and strategic choice settings as well as group decision making. Simultaneous, sequential, dynamic, repeated, and incomplete information games. Preferences for fairness, reciprocity, and cultural differences in interactions. Limitations when making group decisions. Ethical reasoning and computational analysis of strategy. Applications to voting, negotiations, and cooperation.

PSYC 2064: Introduction to Neuroscience of Behavior (3 credits)

Introduction to biological factors that produce behavior. Neuroanatomy and neurophysiology. The development of the nervous system, and neuroplasticity. Basic biological processes pertaining to sensation and perception. Conducting neuroscience research, and evaluating neuroscience-related claims in the popular media. The ethical and responsible use of nonhuman animal subjects; the ethical application of research findings in neuroscience to current problems such as psychopathy and neurodegenerative disease.

CMDA 2014: Data Matter (3 credits)

This course develops fundamental analytical and programming skills to complete the “analytic pipeline”, including specifying research questions, selecting/collecting data ethically and responsibly, processing and summarizing datasets, and stating findings, while considering all assumptions made. Students will identify vulnerabilities in analyses, including sources of bias and ethical implications. Some programming skills recommended, but not required. Some prior use of data recommended, but not required.

*ECON/BDS 3134: Choice and Behavior (3 credits)

Theories of rational choice, utility, and revealed preference. Intertemporal decision problems and choice under uncertainty with applications to insurance and investments. Behavioral regularities and evidence of violations of rational choice theory. Behavioral models that accommodate this

behavior. Applications of behavioral models to economic problems, policy, and organization design.

STAT 3005: Statistical Methods (3 credits)

Basic statistical methodology: exploratory data techniques, estimation, inference, comparative analysis by parametric, nonparametric, and robust procedures. Analysis of variance (one-way), multiple comparisons, and categorical data. Includes real-world examples. Develops problem-solving skills and ethical reasoning within the context of learning from data.

STAT 3604: Statistics for Social Sciences (3 credits)

Statistical methods for nominal, ordinal, and interval levels of measurement. Topics include descriptive statistics, elements of probability, discrete and continuous distributions, one and two sample tests, measures of association. Emphasis on comparison of methods and interpretations at different measurement levels. Includes real-world applications to develop problem-solving skills and ethical reasoning within the context of learning from data.

ECON 3254 Analysis of Economic Data (3 credits)

Sources of economic data. Application of spreadsheet and/or statistical software to analysis of economic relationships using graphical and regression techniques. Emphasis is on economic applications rather than statistical theory.

BDS/PSYC 4194: Predicting Social Behavior (3 credits)

Overview of the process of predicting human choices, preferences, and actions in social contexts. Applications of measurement theory to data preparation, formatting, and scaling. Implications of psychological biases for data transformation and cleaning. Theory-guided predictor variable selection and development. Applications of machine learning to social settings. Evaluating prediction quality, bias, and generalizability. Developing predictive models in software. Ethical and societal implications of predicting human behavior.

Restrictive Electives Theme I: Analysis of Decision Making

CMST 2064 The Rhetorical Tradition (3 credits)

Analysis of great classic and contemporary theories of rhetoric developed throughout the world during the past 2500 years to demonstrate the dynamic, critical nature of persuasive communication. Study of methodological approaches to rhetorical criticism, ethics of message creation, communication contexts, emerging perspectives, and impact of changing culture on rhetorical theory.

CMST 3134 Public Advocacy (3 credits)

Practical reasoning and argumentation about questions of community significance, emphasizing critical thought, rhetorical strategies, and advocacy. Junior standing required.

ECON 3104 Microeconomic Theory (3 credits)

Theories of demand, production, perfectly and imperfectly competitive price determination, and general market equilibrium. Analytic applications.

ECON 4304: Introduction to Econometric Methods (3 credits)

An introduction to econometric modeling techniques, including regression methods. Particular emphasis on the special problems posed by economic data.

ECON 4424 The Theory Of Games And Economic Behavior (3 credits)

Introduction to games and solution concepts, such as prisoner's dilemma, non-cooperative equilibrium and Nash's bargaining solution. These concepts are applied in analyzing economic problems including bargaining problems, oligopoly and agency.

ECON 4434 Experimental Economics (3 credits)

This is a course in the use of laboratory methods to study behavior in economics and the social sciences. Students will study state-of-the-art methodology in experimental economics, including experimental design, laboratory technique, financial incentives, and analysis of data. Students will participate in, design, and conduct experiments in bargaining, auctions, asset markets, public goods and commons situations, and risky decision-making.

ECON/NEUR/PSYC 4454 Neuroeconomics (3 credits)

Neural processes related to reward, learning, reflection, delay of gratification, and social interaction. Clinical uses of neuroeconomics research techniques. Implications of neuroeconomics in economics, policy, law and business.

ENGL 1524/PSYC 1524 Language And The Mind (3 credits)

Examination of what is unique about human language and the evidence that language affects thought. Investigation of how listeners categorize sounds, parse sentences, and access meaning. Examination of what brain damage and speech errors reveal about language in the brain and mind.

NEUR 3084 Cognitive Neuroscience (3 credits)

Concepts in cognitive neuroscience. Methods available to study brain and nervous system function, theoretical and practical issues of relating mental functions to biological brain functions. Overview of current understanding of the neural bases of various mental functions (e.g., memory, attention, emotion, decision making).

NEUR 3144 Mechanisms of Learning and Memory (3 credits)

Foundation of social interactions in human and non-human: ability to learn and memorize locations, situations, individuals, facts and tasks forms. Cellular and molecular mechanism underlying learning and memory and model systems. Approaches to these processes along with diseases presenting with learning and memory deficits in humans.

NEUR 3234 The Artificial Brain (3 credits)

Introduction to brain-machine interactions and computer models of neural systems. Exploration of brain-computer interface applications, biophysically-based computational models of the brain, and computer neural networks in the context of artificial intelligence. Emphasis on the capabilities and limitations of neural networks and how they inform our understanding of the human brain. Discussion of societal impact and ethical considerations.

PHIL 2304 Global Ethics (3 credits)

Ethical issues in international context. Application of the principles of moral theory to such issues as the obligations of richer nations toward poorer ones, cultural and other forms of relativism, emigration and immigration, nationalism, war, deterrence, intervention, environmental degradation, preservation of natural diversity, and responsibilities toward future generations.

PHIL 3505-3506 Modern Logic and Its Development (3 credits)

Logic and logical theory and the history of its development. 3505: Validity of arguments. Syllogistic logic from Aristotle to modern times. Deductive methods in truth functional and quantificational logic through the theory of identity. Translation from English into symbolic form. 3506: Metalogic and the history and philosophy of modern logical theory. Decidability and undecidability, completeness and incompleteness of formal systems. Developments from Cantor to Goedel.

PSCI/IS 3104 Security Studies: Theories And Concepts (3 credits)

Introduces the various theoretical approaches to security. Examines key concepts in the field of Security Studies, such as uncertainty, polarity, war, coercion, terrorism, intelligence, genocide, crimes against humanity, ethnic conflict, and human security.

PSYC 2044 Psychology Of Learning (3 credits)

Survey of fundamental concepts, phenomena, and principles of learning, such as reinforcement/punishment, classical conditioning, and cognitive explanations of retention/forgetting. Traditional learning research, with particular emphasis on methodology and ethical considerations. The behaviorist perspective, and neurobiological and cognitive approaches to understanding learning. The ethical and responsible use of animal models in learning research, and practical applications of learning theory.

PSYC 2084 Social Psychology (3 credits)

Introduction to the social behavior of the individual and the group: social perception and forming judgements of others, attitude formation and change, interpersonal attraction, applied psychology. Cultural influences on attitudes toward diversity, prosocial behavior, prejudice, and aggression and conflict. Application of psychological theories and research to address current social problems.

PSYC 3094 Advanced Research Methods In Psychological Science (3 credits)

Advanced research and analytical methods. Emphasis on methods for specific research and/or practical questions, critical evaluation of research publications. Extended coverage of design and analysis principles and skills, selection and completion of appropriate statistical tests for given data sets. Student-driven empirical report including literature review, methods, analysis, interpretation, and implications for future research. PSYC majors only.

PSYC 4024 Industrial And Organizational Psychology (3 credits)

Overview of psychological theories, research findings, and methods relevant to studying the behavior of individuals in organizations. Topics covered may include prediction of job performance, personnel testing, training and development, and leadership.

PSYC 4054 Personality Research (3 credits)

Research techniques used in contemporary personality psychology: case histories, correlational methods, experimentation, archival studies, and psychobiography.

PSYC 4064 Physiological Psychology (3 credits)

Presentation of concepts important for the study of neuroscience and behavior with a special emphasis on the classic topics of physiological psychology: brain-behavior relations, sensory integration, physiological correlates of motivation and emotion.

PSYC 4074 Sensation and Perception (3 credits)

Overview of sensory and perceptual systems and their integration in influencing behavior. Emphasis on sensory receptor characteristics, neural structure, psychophysical data, perceptual phenomena and issues, theories about the human perceptual process.

PSYC 4084 Advanced Social Psychology (3 credits)

Examines social behavior from four major theoretical orientations: reinforcement, field theory, cognitive, and role theory. Topics may include social learning, social exchange theories, group processes, attitude, and person perception.

PSYC 4114 Cognitive Psychology (3 credits)

An experimentally-oriented survey of human cognitive processes which include attention, memory, and decision making. Role of individual difference variables in each area.

Restrictive Electives Theme II: Application of Decision Making**ACIS 1504 Introduction to Business Analytics & Business Intelligence (3 credits)**

Introduction to Business Information Systems with emphasis on the role of software applications as a tool to develop Business Intelligence to improve decision making. Design and development of spreadsheet and database solutions employing analytical techniques on large data sets to produce quality information. Ethical considerations of information management.

BMES 4134 Global, Societal, And Ethical Considerations In Biomedical Engineering (3 credits)

Overview of contemporary technological advances to improving human health. Comparison of healthcare systems, problems, and existing solutions throughout the developed and developing world. Consideration of legal and ethical issues associated with developing and implementing new medical technologies. Recognition and definition of gaps between medical needs and current methods and therapies between developed and developing countries. Conceptually design a novel technology.

ECON 1104: Economics of Gender (3 credits)

Economic approach to the causes and consequences of male/female gender differences in economic outcomes. Tools in microeconomic analysis and empirical work. Woman, family choices and labor markets. Gender gap in earnings. Employment and wage policies related to women.

ECON 3034: Economics of Poverty and Discrimination (3 credits)

Poverty and inequality in the United States and around the world. Sources of poverty. Antipoverty policies. Definition, empirical evidence, and causes of discrimination. Emphasis on ethical human behavior and policy analysis.

ECON 4044: Public Economics (3 credits)

Economic rationale of the public sector. Proper size and functions of government. Market failure, Cost-benefit analysis, public goods provision. Pricing of public enterprise services.

ECON 4404 Economics of Organizations (3 credits)

Economic theories of organization, with specific attention to their internal structure, and to design of incentive systems. Application to mergers, to the relationship between stockholders and managers, etc. Students with one year of economics, calculus and major in some other social science, by permission of the instructor.

ECON 4214 Economics of Health Care (3 credits)

Effects of medical care on health; cost and production of medical care; demand for medical care and its financing; structure of the health care industry; reorganization for efficiency.

ENGE 2094 Create!: Ideation & Innovation (3 credits)

Apply problem solving framing strategies as part of problem solving design processes. Consider cultural, economic, social, and other perspectives in customer discovery and design processes in order to ensure problem/solution fit. Ideate possible solutions or approaches to address open-ended problems using a variety of methods. Engage in iterative critiques of strategies, solutions and prototypes using methods drawn from industrial design, engineering and the arts.

Collaborate in interdisciplinary and diverse project teams. Communicate deliverables in multiple formats and for different audiences. Identify and address impacts of designed services and products through global perspectives, such as patterns of inclusion and exclusion and effects on localized ecosystems.

PSCI/IS 3134: Global Conflict and War (3 credits)

Focuses on the causes, legal and moral constraints, impacts, and consequences of conflict and war. Explores historical and contemporary cases of conflict and war and investigates the role of state and non-state actors in these conflicts. Examines the impact of technology, religion, culture and identity on the present and future of war.

PSYC 2014: Psychology of Social Interventions (3 credits)

An introduction to the psychological science that underlies behavioral interventions in non-clinical settings. Theories, methods, and applications as they relate to diverse domains such as health, education, prejudice reduction, and the environment. Methodological issues relating to intervention research in psychological science; understanding and limiting possible sources of bias. Relevance and limitations of psychological science for related public policy.

SOC 2034 Diversity and Community Engagement (3 credits)

Examination of patterns, meanings, and challenges of diversity and inclusion to improve social interactions and community engagement within a global society. Focus on diverse identities, social justice, power, and privilege, applying social science theories and concepts, to facilitate intercultural awareness. Community engagement projects employ research methods to connect course materials and service to community.

SOC/HIST/STS 2604 Introduction To Data in Social Context (3 credits)

Examines the use of data to identify, reveal, explain, and interpret patterns of human behavior, identity, ethics, diversity, and interactions. Explores the historical trajectories of data to ask how societies have increasingly identified numerical measures as meaningful categories of knowledge, as well as the persistent challenges to assumptions about the universality of categories reducible to numerical measures.

SPIA 4464: Data and the Art of Policy-Making and Planning (3 credits)

Critical examination of use of scientific and technical information in planning and policy-making, exploring issues and challenges through social science lens. Investigation of appropriate and responsible uses of data within collaborative and deliberative policy-making and planning processes. Presentation of data and underlying models in accessible and understandable formats.

Integrating all forms of knowledge into decision-making, including local and traditional knowledge.

STAT 1014 Data in Our Lives (3 credits)

Develop and practice the process of thinking critically with data in the context of real world problems. Import, manage, summarize, and visualize data using programmable, statistical software. Make data discoveries, make decisions, generate hypotheses, and/or communicate findings in data. Consider laws of probability and personal biases to weigh decisions. Recognize ethical issues and vulnerabilities in analyses when learning from data and extrapolating to large populations.