

Applied Environmental and Sustainability Studies

College of Arts & Sciences

The online Master of Arts in Applied Environmental and Sustainability Studies prepares graduates for positions in the corporate, government, and non-governmental worlds as a sustainability manager, corporate sustainability specialist, or one of many other fast growing environmental and sustainability professions.

Students take a total of 30 credit-hours of graduate coursework (24 credits of coursework and 6 credits of either capstone research or internship). Coursework consists of three core courses (total of 9 credit hours), two skills courses (total of 6 credit hours), and three elective courses (total of 9 credit hours) to expand their skills, insights and engagement with Environmental and Sustainability Studies. This MA degree only offers non-thesis, plan B options: Upon completing these 24 credit-hours, students take two courses for three credits each to prepare and implement their final master's research project under the supervision of faculty members. The MA also offers the alternate plan B option of completing six credit hours of internship work under supervision of faculty members. All MA students will have a final oral examination.

Admission Requirements for the Online MA in Environmental and Sustainability Studies

- CV or resume
- Statement of Purpose (2-3 pages)
- Writing Sample (optional)
- Undergraduate transcript
- A non-refundable \$65 application fee (\$75 for international applicants)
- TOEFL or IELTS score (international applicants only). Minimum scores are listed on the [graduate school's admission page](#).
- GRE or GMAT scores are NOT required for admission to this program.

Degree Requirements

Core Courses (9 Credit Hours)

- ENS 601 Environmental and Sustainability Studies: Issues and Ideas (3 credit hours)
- ENS 602 Environment and Sustainability Policy and Governance (3 credit hours)
- ENS 603 Communicating Environmental Knowledge (3 credit hours)

Skills Courses (6 Credit Hours)

Students choose a total of 6 credit hours from two of the skills courses listed below.

- LA/NRE 556 Contemporary Geospatial Applications for Land and Analysis (3 credit hours)
- MAP 671 Introduction to New Mapping (3 credit hours)
- STA 570 Basic Statistical Analysis (3 credit hours)
- STA 674 Regression Analysis and Design of Experiments (3 credit hours)
- STA 677 Applied Multivariate Methods (3 credit hours)

Capstone/Internship (6 Credit Hours)

Students must complete one of two options to satisfy the non-thesis requirement for the Master's in Applied Environmental and Sustainability Studies. All students will be required to complete a one-hour oral exam.

Plan B Option #1 Internship

Complete 6 credit hours of internship coursework:

- ENS 697 Internship in Environmental and Sustainability Studies I (3 credit hours)
- ENS 698 Internship in Environmental and Sustainability Studies II (3 credit hours)

Plan B Option #2 Capstone

Complete 6 credit hours through a capstone research project and report:

- ENS 695 Research in Environmental and Sustainability Studies (3 credit hours)
- ENS 696 Reporting Research in Environmental and Sustainability Studies (3 credit hours)

Elective Courses (9 Credit Hours)

Students must take an additional 9 credit hours from the approved list of courses. Other courses at the 600-level and above that relate to environmental and sustainability studies may be used to satisfy this requirement with the permission of the program director. Students may only count 6 credit hours of ENS 605 (under different subtitles) or ENS 699 (up to 3 credit hours) towards this requirement.

Course Descriptions

ENS 601 ENVIRONMENT AND SUSTAINABILITY: ISSUES AND IDEAS. (3) This course will survey some of the most important environmental problems (climate change, biodiversity loss, deforestation, water scarcity) and the tools needed to analyze, understand, and respond to these problems (market-based solutions, political economy, institutional economic theories, environmental ethics). Students will also explore new scientific ideas on sustainability to better understand the contemporary environmental problems the world is facing. With rigorous thinking about the science of sustainability, students will

have the knowledge and skills so that they can help institutions, business, public policy, and individuals understand and act on key principles of sustainability. Prereq: Admission to the MA or Graduate Certificate in Applied Environmental and Sustainability Studies or permission of instructor.

ENS 602 ENVIRONMENT AND SUSTAINABILITY POLICY AND GOVERNANCE. (3) This course will explore the roles of governments, markets, and civil society in the creation, adoption, and implementation of environmental and sustainability rules and norms. We will evaluate leading environmental and policy strategies, including traditional state regulation, market-based incentives and regulations created by private actors (civil society and corporations/ Corporate Social Responsibility). Increasingly, the interactions between different forms of regulation figure prominently in debates about environmental and sustainability governance. We will draw upon empirical examples of governance and policy for a diverse reference set of environmental and sustainability challenges and solutions. Students will develop strong critical thinking and problem-solving skills in order to contribute to environmental and sustainability policy and governance. Prereq: Admission to online MA program or Graduate Certificate in Applied Environmental and Sustainability Studies or consent of instructor.

ENS 603 COMMUNICATING ENVIRONMENTAL AND SUSTAINABILITY STUDIES. (3) The course provides students an understanding of the latest scientific research in the field of environment and sustainability studies and the tools to communicate this research effectively to the public. In addition, students will learn key technical writing skills to apply knowledge in environmental and sustainability studies. For technical writing, students will develop skills for writing letters, grant proposals, reports, and presentations for specific audiences. To communicate with a broad audience about the questions central to environmental and sustainability studies, students will write short articles, record podcasts, make videos, craft memes, and author multimodal texts. Storytelling and clear description will also be emphasized across multiple platforms, which will include blogs, audio podcasts and short videos, among others. Students will build the critical skillsets necessary for technical writing as well as craft dynamic and compelling stories about environment and sustainability issues. Prereq: Admission to online MA or Graduate Certificate in Applied Environmental and Sustainability Studies or consent of instructor.

ENS 605 SEMINAR IN ENVIRONMENTAL AND SUSTAINABILITY STUDIES (Subtitle required). (3) Seminar in Environmental and Sustainability Studies, including, for example, environmental racism, environmental justice, sustainability ethics, environment and development, climate change and climate justice, environmental health, or environment and society. May be repeated to a maximum of six credits under different subtitles. Prereq: Admission to the online MA or Graduate Certificate in Applied Environmental and Sustainability Studies or permission of instructor.

ENS 695 RESEARCH IN APPLIED ENVIRONMENTAL AND SUSTAINABILITY STUDIES. (3) Students will complete a significant research project in environmental and sustainability studies that includes reviewing relevant literature and collecting data. Students will design an independent research project using recognized research methodology and will collect and analyze data under the guidance of their faculty advisor and graduate committee. A learning contract with project clearly defined must be approved by supervising faculty member. Prereq: ENS 601 and ENS 602 and ENS 603.

ENS 696 REPORTING RESEARCH IN APPLIED ENVIRONMENTAL AND SUSTAINABILITY STUDIES. (3) This course is part of the Plan B Capstone option for the MA in Applied Environmental and Sustainability Studies. Students will report on the significant research project in environmental and sustainability studies that they conducted in ENS 695 under the guidance of their faculty advisor. Students will complete a report on their research in a format agreed upon with their faculty advisor. Students will also create a blog post and give an oral presentation supported with visual aids (such as PowerPoint) to demonstrate their ability to apply different forms of communication in environmental and sustainability studies. A learning contract with a clearly defined scope of the work and deadlines must be approved by the supervising faculty member. Prereq: ENS 603, ENS 695.

ENS 697 INTERNSHIP IN APPLIED ENVIRONMENTAL AND SUSTAINABILITY STUDIES I. (3) Students pursuing the Plan B Internship option in the MA in Applied Environmental and Sustainability Studies are required to complete six credit hours of internships in order to graduate and must work 40 hours for each credit hour earned. While students are ultimately responsible for finding and completing their internships, students do receive ample support and assistance from program faculty throughout the process. The activities to be carried out during internships must be mutually agreed upon by the student, their faculty supervisor, and the host organization supervisor. Internships can be completed during spring and fall semesters or the summer after students have completed their regular course work. Prereq: ENS 601, ENS 602, and ENS 603.

ENS 698 INTERNSHIP IN APPLIED ENVIRONMENTAL AND SUSTAINABILITY STUDIES II. (3) Students pursuing the Plan B Internship option in the MA in Applied Environmental and Sustainability Studies are required to complete six credit hours of internships in order to graduate and must work 40 hours for each credit hour earned. While students are ultimately responsible for finding and completing their internships, students do receive ample support and assistance from program faculty throughout the process. The activities to be carried out during internships must be mutually agreed upon by the student, their faculty supervisor, and the host organization supervisor. Internships can be completed during spring and fall semesters or the summer after students have completed their regular course work. Prereq: ENS 601, ENS 602, ENS 603, ENS 697.

ENS 699 INDEPENDENT STUDY IN ENVIRONMENT AND SUSTAINABILITY STUDIES. (3) Supervised individual work in Applied Environmental and Sustainability Studies. A learning contract with a clearly defined project must be approved by supervising faculty member or program director. May not be repeated for additional credit. Prereq: ENS 601, ENS 602, and ENS 603 or consent of instructor.

LA 556 CONTEMPORARY GEOSPATIAL APPLICATIONS FOR LAND ANALYSIS. (3) This course focuses on contemporary concepts of land analysis, model development, and ancillary functions in geospatial applications. We attempt to apply concepts from the literature in this course through geospatial technologies to real world situations through individual projects that embraces place. In this course, we will address primarily landscape scale analyses such as watersheds and hydrologic characteristics, viewsheds, least cost path analysis, and enhanced land evaluation and site assessment approaches that have specific relevance to you. Prereq: LA 355/NRE 355 or permission of instructor. (Same as NRE 556.)

MAP 671 INTRODUCTION TO NEW MAPPING. (3) This course introduces students to both the social and technical aspects of digital mapping in the 21st century. Students will learn fundamental concepts and techniques in cartography and GIS, including file types, data classification, projections and coordinate systems and elementary analytical techniques in a range of desktop and web-based mapping platforms. In addition to providing the fundamental technical competencies necessary to create maps, students will develop the critical awareness required to effectively communicate complex social processes through maps.

STA 570 BASIC STATISTICAL ANALYSIS. (3) Introduction to methods of analyzing data from experiments and surveys; the role of statistics in research, statistical concepts and models; probability and distribution functions; estimation; hypothesis testing; regression and correlation; analysis of single and multiple classification models; analysis of categorical data. Prereq: MA 109 or equivalent.

STA 674 REGRESSION ANALYSIS AND DESIGN OF EXPERIMENTS. (3) Course begins with an applied regression module that emphasizes analysis and interpretation of real data, and statistical computing. Second part of course focuses on principles and implementation of experimental design for scientific research purposes. Standard designs presented along with the proper kinds of analysis for each. Continued emphasis on real data and statistical computing using R and/or SAS. Prereq: STA 570.

STA 677 APPLIED MULTIVARIATE METHODS. (3) Survey of multivariate statistical techniques important in applied research. Focus on multivariate structure-seeking methods, but attention given to important hypothesis testing applications in ANOVA and MANOVA. Emphasis on implementation using modern statistical software and interpretation of results in context. Prereq: STA 674.