

Environment & Sustainability Management (ENVS)

ENVS 6001 Env, Bus, Sus Mgmt 3 Credits

This course serves as a starting point for the MS-ESM coursework by introducing students to the topics of sustainability and equipping them with a strong foundational knowledge of the theory of sustainability and the balance between environmental, social, and economic systems. The focus of this course is organizational sustainability in a variety of organizations (for-profit businesses, nonprofits, foundations). Through an immersive case study, students work on real-life challenges in groups to identify the issues, problems, and solutions required at the intersection of business and the natural environment. In addition, this course provides a primer to ethics, equity, and justice issues.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Students in the MS-ENVS program may **not** enroll.

Enrollment is limited to Graduate level students.

ENVS 6002 Environmental Science I 3 Credits

This course is the first of a two-course sequence (Environmental Science I and II). It explores the scientific principles, concepts, and methods required to understand critical disciplinary perspectives and interrelationships of the natural world. Students will learn to articulate the boundaries of science and describe the interdisciplinary nature of environmental science. This course covers fundamental aspects of Earth's systems and their interactions including geology, nutrient cycling, biodiversity and conservation, ecology and evolution, population dynamics, ecosystem functioning, and more. In this course, students will be required to think critically regarding the scope of environmental conditions in terms of basic mathematics, accurate scientific language, and tools that can be used to describe environmental variables and conditions. This foundational course will provide the background needed to address applied sustainability challenges presented in Environmental Science II.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Students in the MS-ENVS program may **not** enroll.

Enrollment is limited to Graduate level students.

ENVS 6003 Environmental Science II 3 Credits

This second part of the two-course sequence (Environmental Science I and II) focuses on the science-based yet interdisciplinary nature of environmental issues such as water resources and water pollution, food and agriculture, waste management, and the management of natural resources. Through case studies and other interactive modes of learning, students learn key problem-solving elements used in environmental science and sustainability. Students will consider multi-disciplinary problems and solutions of natural resource usage and the impact on the environment. Students also learn the importance of engaging in the debate about environmental problems with data-supported insights via many forms of communication. Students will apply their learning to come up with critical recommendations for diverse actors to address sustainability challenges each week.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the MS-ENVS program.

Enrollment is limited to Graduate level students.

ENVS 6010 Climate Change Impact Msmt 1.5 Credits

Global greenhouse gas emissions are now at a record high, and the world's scientific community agrees that continued unabated release of greenhouse gases will have catastrophic consequences for species and the planet. Many efforts to curb greenhouse gas emissions, both public and private, have been underway for decades, yet it is now clear that collectively these efforts are failing. Critical to any attempt to mitigate greenhouse gas emissions is a clear, accurate understanding of the sources and levels of greenhouse gas emissions and of the methods for measuring and modeling climate change. This course addresses all facets of greenhouse gas emissions accounting and reporting and will provide students with tangible skills needed to direct such efforts in the future.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the MS-ENVS program.

Enrollment is limited to Graduate level students.

ENVS 6011 Environmental Data to Lead Change 1.5 Credits

This course focuses on developing the quantitative skills necessary for identifying and analyzing socioenvironmental science data. Using a hands-on, experiential, problem-based approach with real socioenvironmental data, students learn basic methods to build and manage databases. They also study the basics of descriptive and inferential statistical methods, including exploratory data analyses, and basic linear and logistic regressions. Introductions to multivariate analysis and model selection complement the development of analytical skills. The course provides students with experience in the application of statistical methods and the use of open-source statistical software, R. Students also learn the importance of using such analytics to lead change in the context of an original research project and for the Capstone. The emphasis for this course is on drawing meaningful inferences from data using analytical tools; inferences which can then be applied to spark action.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the MS-ENVS program.

Enrollment is limited to Graduate level students.

ENVS 6012 Environmental Data Visualization 1.5 Credits

In this course, students learn how to effectively identify, explore, and communicate key insights from environmental data to diverse audiences through data visualization and presentation. This course teaches best practices in data visualization, developing and interpreting different charts, graphs, and maps with open-source software tools. Classes consist of short lectures on key principles of effective communication and data management, coupled hands-on applied visualization activities. Throughout the course, students are encouraged to interpret findings in terms of an emerging story that the data reveal about the core research questions addressed and the decisions that can be communicated to motivate others to action.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the MS-ENVS program.

Enrollment is limited to Graduate level students.

ENVS 6015 The Energy Transitions 1.5 Credits

Achieving net-zero carbon emissions by 2050 – a target set by scientists and adopted internationally by businesses and governments – requires a complete transformation in how energy is produced, distributed, and consumed at an unprecedented speed and scale. In this course, students will gain an understanding of the characteristics and drivers of past and current energy transitions and survey disruptive trends in the energy sector and other energy-dependent ones. We will examine the principles, applications, and impacts of various energy technologies and the associated environmental, political, and socioeconomic challenges with the transition to a renewable energy future. Through case studies, readings, and guest speakers, students will learn about the role of industry developments, government policies, and public attitudes in deploying alternative energy technologies.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the MS-ENVS program.

Enrollment is limited to Graduate level students.

ENVS 6020 Env Sustainability Capstone 3 Credits

The Capstone Course, which spans Modules 4 and 5, provides students with a practical understanding of environmental and sustainability challenges in an organizational setting. Organized in teams, students work with a real organization to gain experience in identifying opportunities and solving challenges related to sustainable business, communication, and implementation, while also flexing their problem-solving, analytical, synthesis, and communication skills. In the first part of the course, students are introduced to the clients and the projects, focusing on developing consulting skills and frameworks to help them successfully deliver on these projects in the second part of the course. Students work in their teams to conduct open and initial research into their projects, including interviewing their clients. Consistent with the mission and values of Georgetown University, this course helps develop students to be ethical leaders: women and men who act with integrity and have well-deserved reputations for assiduously managing the social and environmental impacts of their organizations.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the MS-ENVS program.

Enrollment is limited to Graduate level students.

ENVS 6021 EnvSustainability Capstone II 1.5 Credits

The Capstone Course, which spans Modules 4 and 5, provides students with a practical understanding of environmental and sustainability challenges in an organizational setting. Organized in teams, students work with a real organization to gain experience in identifying opportunities and solving challenges related to sustainable business, communication, and implementation, while also flexing their problem-solving, analytical, synthesis, and communication skills. In the first part of the course, students are introduced to the clients and the projects, focusing on developing consulting skills and frameworks to help them successfully deliver on these projects in the second part of the course. Students work in their teams to conduct open and initial research into their projects, including interviewing their clients. Consistent with the mission and values of Georgetown University, this course helps develop students to be ethical leaders: women and men who act with integrity and have well-deserved reputations for assiduously managing the social and environmental impacts of their organizations.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the MS-ENVS program.

Enrollment is limited to Graduate level students.

ENVS 9993 ENVS Continuous Registration

Continuous Registration course for ENVS

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to students with a program in Envirom'tSustainability Mgmt, Envirom'tSustainability Mgmt, Envirom'tSustainability Mgmt or Envirom'tSustainability Mgmt.