Environmental Studies Major
Fall 2020 ENVS Topics Course Descriptions

ENVS 3030-001: Topics in Environmental Social Science: Foundations of Environmental Justice
Instructor: David Ciplet**: David.Ciplet@colorado.edu**
Contact instructor for more information.
Fulfills the Intermediate Social Science Requirement.

ENVS 3525-001: Intermediate Environmental Problem Analysis: Topical Cornerstones - Sustainable Food Systems
The UN predicts that world food demand will increase by 70% by 2050, relative to current levels. Given the already-high environmental and social impacts of food systems globally, how can such large growth in food production be achieved in a more sustainable manner? This course will examine the broad environmental and social costs of the current food system, and explore the opportunities and challenges for alternative models of food production and consumption. Can organic feed the world? Should we buy local? What contribution might GMOs make? What is the impact of animal agriculture on the environment? What dietary changes are needed and anticipated? How can food waste be reduced? In all cases, we will ask: what is the best available evidence that these ideas can enhance food system sustainability; do these potential solutions offer environmental gains or losses; can they be scaled up; and what are the changes in science, policy, and values that would better-enable that process? The course aims to develop critical thinking skills and food literacy, and will encourage engaged student learning.
Fulfills the Cornerstone Requirement.

ENVS 3525 Cornerstone, Fall 2020: Land Use Ethics
Instructor: Carrie Vodehnal
Our values shape our actions—including the ways we use and interact with the land. In this course, we will examine different land use practices, including land conservation and preservation, agricultural and industrial uses, urban development, and resource extraction to analyze their respective relationships to values key stakeholders espouse regarding them. We will start by gaining an understanding of ethical theories and philosophical foundations, then we will examine multiple types of practices to better understand ways values shape our land use practices, figure into the decision-making processes, and affect contested uses of the land.
Fulfills the Cornerstone Requirement.

ENVS 3525-003: Cornerstone, Health and the Built Environment
Instructor: Jill Litt: **Jill.Litt@colorado.edu**
Contact instructor for more information.
Fulfills the Cornerstone Requirement.

ENVS 4100-002: Mathematics of Human-environment Systems
Instructor: Matt Burgess

An introduction to mathematics-based concepts underlying the dynamics of human-environment systems including stability, tipping points, chaos, networks, emergence, and complexity. Concepts will be applied to understand real-world phenomena such as ecosystem dynamics, human population growth, contagion of diseases and financial risk, climate change, tribalism, and inequality.
Recommended pre-requisites: At least one year of calculus and basic familiarity (from a course or equivalent) with coding/programming and linear algebra is essential. Prior coursework in ordinary differential equations would be helpful, but not essential.
Partially fulfills the ENVS Specialization Requirement.

ENVS 4800-001: Capstone: Critical Thinking in Environmental Studies – Risk & Resilience
Instructor: Lisa Dilling
In 2020, the majority of the world's population lives in cities, and this trend will only continue, even as extreme events, resource depletion, climate change, and other factors stress populations worldwide. In this course we will study and discuss the concept of urban resilience, and each student will have the chance to design and evaluate solutions for building urban resilience in a real world case of their choosing. This course will draw upon the science, policy, and values courses they have taken in the ENVS major and will provide an opportunity to bring in all the varied dimensions of decision making for building a more resilient future. Students complete a semester-long project where they select a city of their choosing, identify a resilience problem, propose three solutions and then evaluate those solutions using simplified versions of 4 professional methods for judging effectiveness, cost/benefit, equity, and stakeholder/political support. Students should be able to take what they have learned executing their projects into their future careers as professionals designing solutions for complex environmental and resilience problems.
Fulfills the Capstone Requirement.

ENVS 4800-002: Capstone: Critical Thinking in Environmental Studies – Philosophy of Climate Science
Instructor: Ben Hale: **BHale@colorado.edu**
Contact instructor for more information.
Fulfills the Capstone Requirement.

ENVS 4800-003: Capstone: Critical Thinking in Environmental Studies - Climate Justice
Instructor: David Ciplet**: David.Ciplet@colorado.edu**
Contact instructor for more information.
Fulfills the Capstone Requirement.