ENVRES (ENVRES)

Courses

ENVRES 220. The Social Ocean: Ocean Conservation, Management, and Policy. 1-2 Unit.
This interdisciplinary seminar examines current ocean issues and ideas through a series of readings, discussions, and guest lecturer presentations of seminal works about ethical, physical, and emotional relationships of human beings to the marine world. Through the lenses offered by several classic readings, we will examine and reinterpret the challenges of fisheries collapse, climate change, shipping, marine spatial planning, biodiversity conservation, and the management of land-sea interactions. Though the seminar is open to all undergraduate and graduate students, our course is designed especially for those with a particular interest in studying and solving key issues of ocean policy and management, from coastal adaption to fisheries management to cumulative impacts assessments. In addition to this interest, students must be willing to take the time to dig deeper into the foundations of environmental thinking about the relationship of human beings and the sea.

ENVRES 225. E-IPER Current Topics Seminar. 1 Unit.
For E-IPER Ph.D and Joint M.S. students only. Weekly presentations of E-IPER students' research and other program-related projects. Occasional guest speakers. Individual or team presentation, active participation, and regular attendance required for credit. May be taken for credit a maximum of two times.

ENVRES 230. Field Survey Data Collection & Analysis. 3 Units.
In this course we will examine a range of issues related to the collection and analysis of survey data. Topics will include initiating a survey, designing an instrument, conducting enumeration, converting data from questionnaires to digital files, data analysis, empirical modeling and presenting results. Technical components will also be highly focused on application and implementation, and while prior training in econometrics would be useful, it will not be a prerequisite. The course will be tailored so that some of the specific topics covered will be based on the needs and interests of the students.

ENVRES 238. Commercial Agriculture Seminar. 1 Unit.
Practical survey of the agriculture industry with a focus on the US. Speakers are agricultural practitioners, including executives from commercial farming, agriculture private equity funds, agricultural equipment and seed suppliers, food marketing and retail companies, and novel early-stage ag tech companies. By the end, students will have a high-level grasp of real-world agricultural operations from planting to harvest, to retail sales in the grocery store and obtain a greater understanding/appreciation of the food we eat every day. May be repeated for credit.

ENVRES 240. Environmental Decision-Making and Risk Perception. 1-3 Unit.
Mobilizing successful conservation efforts to mitigate climate change and preserve both local and global ecosystems requires a new way of thinking. This course will investigate the barriers to pro-environmental behavior and the heuristics and biases that cloud our ability to respond effectively to environmental problems, using insights from behavioral economics, neuroeconomics, and environmental risk perception. Emphasis on interdisciplinary applications of recent research, and implications for environmental policymaking and persuasive messaging.

ENVRES 250. Environmental Governance. 3 Units.
This interdisciplinary course presents an overview of environmental governance through an examination of how and why societies manage the relationships between human beings and the natural world. By comparing regulatory, community-based, and incentive-based environmental management systems, we address why certain environmental problems are managed as they are, and what approaches to environmental management are more (or less) successful. Designed for graduate students and upper-level undergraduates with some exposure to both the natural sciences (ecology/environmental chemistry), and the social sciences (anthropology, economics, political science, or sociology). A pre-course incoming survey is required.
Same as: CEE 277C

ENVRES 270. Graduate Practicum in Environment and Resources. 1-5 Unit.
Opportunity for E-IPER students to pursue areas of specialization in an institutional setting such as a laboratory, clinic, research institute, governmental agency, non-governmental organization, or multilateral organization. Meets US CIS requirements for off-campus employment with endorsement from designated school official.

ENVRES 275. The Practice of Mining and Its Social and Environmental Context. 2 Units.
Seminar focused on one of the world's oldest industries: mining. Mining is a major industrial process that underpins the provision of many of the resources that we use in our daily lives; it is also a process that has defined landscapes and communities in sometimes positive and often negative ways. Mining is often neglected in balanced discussions of resource use and sustainability, and this course aims to give students context to help ensure that its lessons are not forgotten.

ENVRES 280. Introduction to Environmental Science. 2 Units.
For E-IPER Joint M.S. students only. This course functions as a gateway for E-IPER Joint M.S. students to learn about the variety of environmental science conducted by the program's affiliated faculty. Topics include oceans, green chemistry, water policy, energy, and others. Students engage in problem solving related to the application of science to business, law, and the conservation of natural resources.

ENVRES 290. Capstone Project Seminar in Environment and Resources. 1-3 Unit.
Required for and limited to E-IPER Joint M.S. students. Propose, conduct and publicly present final individual or team projects demonstrating the integration of professional (M.B.A., J.D., or M.D.) and M.S. in Environment and Resources degrees. Presentation and submission of final product required. 3 total units required; can all be taken during one quarter or divided over two sequential quarters.

ENVRES 300. Introduction to Resource, Energy and Environmental Economics. 3 Units.
Examination of environmental, energy and natural resource management problems through the lens of economics, with an emphasis on hands-on practical problem-solving. Topics include market failure, cost-benefit analysis, finance, risk & uncertainty, non-market valuation, regulation, green accounting, rent, renewable resources, exhaustible resources, including energy, and biodiversity. Prerequisite: proficiency in multivariate calculus. Knowledge of basic microeconomics helpful but not essential. Open only to PhD students.

ENVRES 315. Environmental Research Design Seminar. 1 Unit.
Required core course for first year E-IPER Ph.D. students; optional for Joint M.S. students; other graduate students with instructor's permission. Series of faculty presentations and student-led discussions on interdisciplinary research design as exemplars of the research design theories discussed in ENVRES 320. Designing Environmental Research. Topics parallel the ENVRES 320 syllabus. Corequisite: ENVRES 320.
ENVRES 320. Designing Environmental Research. 3-4 Units.
Required core course restricted to first year E-IPER Ph.D. students. Research design options for causal inference in environmentally related research. Major philosophies of knowledge and how they relate to research objectives and design choices. Identification of critical elements within a broad range of research designs. Evaluation of the types of research questions for which different designs are suited, emphasizing fit between objectives, design, methods, and argument. Development of individual research design proposals, including description and justification understandable to a non-specialist.

ENVRES 330. Research Approaches for Environmental Problem Solving. 3 Units.
Required core course for first year E-IPER Ph.D. students. How to develop and implement interdisciplinary research in environment and resources. Assignments include development of research questions, a preliminary literature review, and a summer funding proposal. Course is structured on peer critique and student presentations of work in progress. Corequisite: ENVRES 398 with a faculty member chosen to explore a possible dissertation topic.

ENVRES 340. E-IPER PhD Writing Seminar. 1-2 Unit.
Restricted to second year E-IPER Ph.D. students only. Actively pursue one or more writing goals relevant to this stage in their graduate studies in a structured setting. Set specific writing goals, create and follow a plan for reaching these goals, and receive substantive feedback on their written products from their peers. Examples of writing products include, but are not limited to, the student's dissertation proposal, E-IPER Fields of Inquiry essay, a literature review, or a grant or fellowship application. By the end of the course, students are expected to have completed or have made substantial progress toward their writing goal.

ENVRES 380. Collaborating with the Future: Launching Large Scale Sustainable Transformations. 3-4 Units.
This project-based d.school class combines Design Thinking Processes, Behavioral Sciences, elements of Diffusion Theory, and a methodology for scaled transformation. Tools and theories introduced in class will be used to structure large-scale transformations that simultaneously create value on environmental, societal, and economic fronts. This is a project-based class involving team-based, real world challenges that are all complex and scaled. Primarily meant for Graduate Students (especially qualified/motivated Seniors will be considered). Admission to the class is through an application process which ends on March 3. Please find instructions and applications at https://dschool.stanford.edu/groups/largetransformations/.

ENVRES 398. Directed Reading in Environment and Resources. 1-10 Unit.
Under supervision of an E-IPER affiliated faculty member on a subject of mutual interest. Joint M.S. students must submit an Independent Study Agreement for approval. May be repeat for credit.

ENVRES 399. Directed Research in Environment and Resources. 1-15 Unit.
For advanced graduate students. Under supervision of an E-IPER affiliated faculty member. Joint M.S. students must submit an Independent Study Agreement for approval.

ENVRES 801. TGR Project. 0 Units.

ENVRES 802. TGR Dissertation. 0 Units.