

Course Syllabus- Fall 2015

HON 290: Science as a Way of Knowing- Dimensions of Environmental Change

Meeting time: W 15:10-18:00

Location: THOM 24

Section 3 SLN 4335 Credits: 3

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Course Website: <http://www.cereo.wsu.edu/2015-hon-290/>

Course Overview: Balancing human well-being with environmental sustainability is a critical, global challenge. To address these challenges, researchers must understand how to identify, communicate and fund pressing scientific questions. This interdisciplinary course is organized around the CEREO seminar series and aims to provide students with an in-depth understanding of the research process and the variety of environmental issues we face today. Over the course of the semester, students will attend seminars covering a broad range of on-going environmental research and participate in structured discussions with scientists and writers to learn more about how research is accomplished. Students will use this information to develop their own research proposals. The course will conclude with an oral presentation and a written proposal by each student.

Honors 290 prepares Honors students for the application of science to problem solving on a global scale (Honors 390, Application of Science to Global Issues). It also provides science majors with transferable skills that are critical for conceptualization and execution of Honors Theses. This is achieved through two upper-division Honors courses: UH 398 (Honors Thesis Proposal Seminar) and UH 450 (Honors Thesis).

Course Learning Goal:

Students will demonstrate in written and oral formats the ability to 1) understand and think critically about the diversity of environmental research that exist, 2) generate valid research questions and craft these ideas into research proposals, 3) effectively communicate research ideas to peers and other researchers.

Learning Outcomes:

Critical and Creative Thinking: Students will develop a deeper understanding for the breadth of environmental science research. They will use this knowledge to guide and develop research ideas of their own.

Quantitative Reasoning: Students will be exposed to models and quantitative environmental research during CEREO seminars. They will learn to identify and discern between the variety of methods and analyses used in environmental research.

Information Literacy: Students will demonstrate literacy across a wide range of disciplines and develop the skills necessary to find and evaluate different types of environmental information. Students will use these skills to inform the research ideas they generate.

Communication: Students will communicate effectively in discussions about environmental research questions, goals and processes, and will use oral/visual and written media to present their own research ideas to the class.

Scientific Literacy: Students will actively engage in the environmental research process by integrating and translating scientific knowledge into information that supports and frames their research ideas and goals.

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Course Learning Goals and Activities:

	At the end of this course, students will be able to:	This objective will be evaluated primarily by:	Course topics (& dates) that advance these learning goals are:
LG1	Understand and think critically about the diversity of environmental research that exist	- Attendance of weekly CEREO seminars - Active participation in weekly discussions - Weekly writing assignments	- Sept-Nov: Regular attendance of weekly CEREO seminars - Sept-Nov: Weekly discussions with CEREO lecturers - Sept-Nov: Weekly reading assignments
LG2	Generate valid research questions and proposals	- Project milestone assignments - Final written research proposal	- Sept-Nov: Regular attendance of weekly CEREO seminars - Sept-Nov: Weekly discussions with CEREO lecturers - Sept 23: Grant-writing workshop
LG3	Effectively communicate research ideas to peers and other researchers	- Final oral and written presentation of research proposals	- Sept-Nov: Regular attendance of weekly CEREO seminars - Sept 23: Grant-writing workshop

Evaluation Criteria:

Attendance (10%) If you do have to miss a class, please provide a written explanation of the absence at least 4 hours in advance. For an overview of what are allowable absences, see Section 73 of the WSU Academic Regulations: <http://registrar.wsu.edu/academic-regulations/>

Weekly Written Assignments (15%) Each week you'll be assigned 2-3 short reading assignments. A one-page written summary of these readings will be handed in at the end of class. Each summary should include the following components: 1) brief description of the readings, 2) how does this information relate to the week's topic? 3) Two questions you have based on the reading.

Class Discussion (15%) Asking questions and participating in discussions is a great way to better understand any subject. The second half of each class will focus on a discussion with the week's lecturer about various aspects of environmental research. You are expected to contribute regularly to class discussions.

Final Project (60%) Over the course of the semester, you'll be identifying and constructing a small research grant proposal. This project will be broken into several smaller parts and will account for the following portion of your final grade: project title (2%), annotated bibliography (5%), project outline and budget (5%), project abstract (8%), oral presentation (~10-15 min) (15%), and final written report (25%).

Late Assignments: Grades will be penalized for assignments submitted after the due date. The size of the penalty will be proportional to the time since the due date. Assignments more than one week late will result in a 0.

Materials and Resources:

Reading assignments will be made available to students via email and on the course webpage the week before written summaries of the material are due. This course has no textbook, however supplemental resources will be recommended to students seeking more information upon request.

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Grading System: Grades will be awarded based on the following percentage scale. The scale may be adjusted up or down by the instructor, but grades will not be curved. It is theoretically possible for everyone to get an A (or an F). Your performance depends on how well you do, not on how everyone in the class does. While this class encourages working and discussing ideas with your fellow classmates, **working together does not mean turning in duplicates of the same assignment**. Turning in duplicate assignments is considered plagiarism (see Academic Integrity below).

93-100%A	77-80%.....C+
90-93%.....A-	73-77%C
87-90%.....B+	70-73%.....C-
83-87%B	60-70%.....D
80-83%.....B-	< 60%F

Weekly Overview & Schedule

Date	Seminar title and presenter	Assignments	Weekly Focus
26 Aug	No class- President Floyd's Memorial		
2 Sep	Water in an Urbanizing World <i>Julie Padowski, CEREO/WRC, WSU</i>		Course overview and expectations
9 Sep	Empirical evidence for multiple stable states in a young delta wetland and implications for restoring a sustainable Gulf Coast <i>Kevan Moffett, SoE, WSU</i>	Reading Summary #1	Developing research ideas
16 Sep	Sympathy for the (Tasmanian) devil: evolutionary genomics of an infectious cancer <i>Andrew Storfer, Biology, WSU</i>	Reading Summary #2 Project title due	Getting involved in research as an undergraduate
23 Sep	Grant-writing workshop <i>Stephanie Hampton, CEREO, WSU</i>	Reading Summary #3	The WSU Green Fund
30 Sep	Ecosystem Measurements and Modeling from Minutes to Millennia <i>Tara Hudiburg, Forestry, UI</i>	Reading Summary #4 Annotated bibliography due	Research in the physical sciences
7 Oct	Long-term accumulation and transport of anthropogenic phosphorus in world river basins <i>Steve Powers, SoE, WSU</i>		
14 Oct	Promoting Conservation in Developing Countries <i>Catherine Craig, Biology, WSU</i>	Reading Summary #5	Working with non-profits
20 Oct* (TUES)	Science, Environment & Health* Ken Weiss, Writer, L.A. Times	Talk Summary- Extra Credit	Location: Honors Lounge Time: 5-7pm

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28 Oct	The Land Speaks: Understanding Wilderness through Oral History and Story <i>Debbie Lee, English, WSU</i>	Reading Summary #6 Project outline and budget due	Research in the humanities
4 Nov	Modeling the Spread of Agriculture to the Roof of the World <i>Jade d'Alpoim Guedes, Anthropology, WSU</i>	Reading Summary #7	Engaging in international research
11 Nov	No class- Veterans Day		
18 Nov	Global Integration and the Carbon Intensity of Well-being <i>Jennifer Givens, Sociology, WSU</i>	Reading Summary #8 Project abstract due	Research in the social sciences
25 Nov	No class- Thanksgiving Holiday		
2 Dec	Student Presentations		
11 Dec	Student Presentations	Final paper due	

Academic Integrity:

Academic integrity is the cornerstone of the university. **Any student who attempts to gain an unfair advantage over other students by cheating, will fail the assignment** and be reported to the Office Student Standards and Accountability. Cheating is defined in the Standards for Student Conduct WAC 504-26-010 (3). [Read more](#)

Students with Disabilities:

Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building 217; 509-335-3417) to schedule an appointment with an Access Advisor. All accommodations **MUST** be approved through the Access Center.

WSU Safety Statement:

Washington State University is committed to maintaining a safe environment for its faculty, staff, and students. Safety is the responsibility of every member of the campus community and individuals should know the appropriate actions to take when an emergency arises. In support of our commitment to the safety of the campus community the University has developed a Campus Safety Plan, <http://safetyplan.wsu.edu>. It is highly recommended that you visit this web site as well as the University emergency management web site at <http://oem.wsu.edu/> to become familiar with the information provided.