



UNIVERSITY OF
OREGON

Syllabus

ENVS 202: Introduction to Environmental Studies: Natural Sciences

Monday + Wednesday 10-11:20, Fenton 110

Alexandra Rempel, Instructor

Spring 2018

Course description

The natural and applied sciences underlying contemporary environmental issues—microbiology, aquatic and atmospheric chemistry, population ecology, freshwater hydrology, oceanography, climate science, agronomy, wind, solar, and nuclear power generation, transportation engineering, and many others—are essential background for environmental decision-making. With an understanding of photosynthesis, the carbon biogeochemical cycle, and contemporary agricultural practices, for example, one can better evaluate conflicting claims regarding the benefits and harms of particular biofuels. This course is focused on the acquisition and use of such evidence, i.e. quantitative, scientific evidence, to support and refute arguments surrounding environmental issues. In this way, it promotes the acquisition of “science literacy”, the ability to work fluently with observations, measurements, model predictions, survey results, maps, graphs, and other forms of scientific data toward a desired end: an evidence-based argument, policy, interpretation, or perspective. Environmental action is often political, in that it relies on human decisions made with incomplete information and influenced by conflicting goals and desires. This course will explore the boundaries between environmental science and environmental action closely, drawing on some of the most influential, engaging, and controversial environmental science writing available and asking students to respond critically through their own writing and section discussions. By the end of this course, successful students will be well-prepared to recruit reliable scientific evidence to address the numerous environmental questions they will ultimately encounter.

Prerequisite: None; this is an introductory course. ENVS 201, 202, and 203 may be taken in any order.

Course email: Please direct all emails to the course email address: envs202@uoregon.edu

Teaching staff:

Instructor: Alexandra Rempel, Assistant Professor, Environmental Studies Program

GE: Katrina Maggiulli, Ph.D. candidate

GE: Nathaniel Otjen, Ph.D. candidate

GE: Geoffrey Johnson, Ph.D. candidate

Required materials: Readings posted on Canvas (free) + [More Than Honey](#) (video), available online (\$5)

Website: Assignments, announcements, and grades will be posted on Canvas.

Campus Community Connection

One field trip will be required, occupying about half of one weekend day, in which students will work with nonprofit organizations such as the Willamette Resources & Educational Network, Friends of Trees, and Hendricks Park Volunteers. Details will follow separately.

Debate Project

In the debate project, students will explore one side or another of controversial environmental questions, focusing on the acquisition and interpretation of scientific evidence, to arrive at conclusions that were not obvious at the beginning. Debates will occur in section in Week 9.

Topic Schedule

Week	Reading	Section Activity / Discussion
1: The Scientific Method	<ul style="list-style-type: none"> ▪ Observations of Microscopic Animals... ▪ Galapagos Archipelago ▪ Pioneering Woman... 	<ul style="list-style-type: none"> ▪ Natural History / Superbloom exercise
2: In the Air	<ul style="list-style-type: none"> ▪ Energy ▪ The Ambient Air ▪ In The Air 	<ul style="list-style-type: none"> ▪ Global Air Pollution exercise
3. Water, Water Everywhere	<ul style="list-style-type: none"> ▪ Water Underground ▪ Chemistry of Oceans ▪ Flint's Long Struggle Against Lead Poisoning ▪ Scott Pruitt Doesn't Know Power of the EPA 	<ul style="list-style-type: none"> ▪ Discussion of Flint and Pruitt
4. Silent Spring	<ul style="list-style-type: none"> ▪ Silent Spring I & II 	<ul style="list-style-type: none"> ▪ DEBATE QUESTIONS DUE
5. Ecosystems	<ul style="list-style-type: none"> ▪ Eating the Sun ▪ Inertness of Nitrogen 	<ul style="list-style-type: none"> ▪ Exam Review
6. Population Growth	<ul style="list-style-type: none"> ▪ MIDTERM EXAM Monday, May 7 ▪ Population Growth and Regulation ▪ Judging China's One-Child Policy ▪ Head Count 	<ul style="list-style-type: none"> ▪ Discussion of Judging and Head Count
7. Mass Extinctions	<ul style="list-style-type: none"> ▪ Sixth Extinction + Welcome to Anthropocene ▪ Stung ▪ Silent Hives 	<ul style="list-style-type: none"> ▪ DEBATE EVIDENCE DRAFT DUE
8. Sustainable Agriculture	<ul style="list-style-type: none"> ▪ Springing Forward and Stalking the Vegetannual ▪ What Milk Should I Drink? ▪ New York Local ▪ More than Honey (video) 	<ul style="list-style-type: none"> ▪ Discussion of Springing, Milk, Vegetannual
9. The Efficiency Dilemma	<ul style="list-style-type: none"> ▪ The Efficiency Dilemma ▪ Island in the Wind ▪ Hot Grease ▪ There and Back Again ▪ Holy Rollers ▪ Green Manhattan 	<ul style="list-style-type: none"> ▪ DEBATES IN SECTION
10. Our Future on a Hotter Planet	<ul style="list-style-type: none"> ▪ One Degree ▪ The Climate Fixers ▪ Paying for It 	<ul style="list-style-type: none"> ▪ Exam Review
11. Exam Week	FINAL EXAM: 10:15 Tuesday, June 12, Fenton 110	

Learning outcomes

By the end of the course, successful students will be able to:

1. Evaluate environmental arguments and actions in light of introductory-level understanding of environmental sciences.
2. Interpret quantitative evidence critically, distinguishing what is factually shown from what is supported, implied, and/or suggested.
3. Interpret arguments involving scientific issues critically, noting the parts that are supported by evidence from those that are not.
4. Gather reliable scientific evidence and use it to support a compelling argument.

Evaluation

Accomplishment will be evaluated on the basis of weekly quizzes, midterm and final exams, a term project, and classroom participation. All grades will be recorded in Canvas.

Weekly Quizzes:	20% (lowest single score will be dropped)
Section + Homework + CCC:	30%
Midterm Exam:	20%
Debate Project:	10%
Final Exam:	20%

Letter grades reflect the following:

A: Demonstrates *excellent*, thorough, nuanced understanding or accomplishment. Discussion comments and questions are thoughtful and constructive, reflecting careful study of the reading assignments. Group work is active, constructive, collaborative, and shows initiative and resourcefulness. Written work is comprehensive, clear, concise, thoughtful, accurate, and free of grammatical and spelling errors; computational work is complete and accurate; visual work is complete, well-organized, and accessible.

B: Demonstrates *good* understanding or accomplishment. Discussion comments and questions are constructive, reflecting good attention to the reading assignments and solid comprehension. Group work is active, constructive, and collaborative, but shows limited initiative and resourcefulness. Written work contains good but not exemplary content, is difficult to follow in places, and/or contains a small number of grammatical and spelling errors; computational work is generally good with minor errors; visual work is complete and of good quality but may be mildly disorganized and/or difficult to interpret in places.

C: Demonstrates *adequate* understanding or accomplishment. Discussion contributions are few in number, contain limited constructive content, and/or reflect inattention to reading assignments. Group work is attempted, but shows low energy or effort to collaborate with group members, and/or creates unusual levels of conflict. Written work is incomplete and/or superficial, difficult to follow, and/or contains numerous grammatical and spelling errors; computational work is conceptually adequate but contains significant errors; visual work contains limited content and/or careless presentation.

D: Demonstrates *inferior* understanding or accomplishment. Discussion contributions are rare, with minimal content. Behavior in class disrupts others' learning. Group work is inferior, incomplete, or disruptive. Written work contains just enough content to pass, is thoroughly difficult to follow, and/or contains egregious grammatical and spelling errors; computational work is incomplete and contains misapplied concepts and/or significant errors; visual work is incomplete as well as limited in content and/or presented carelessly.

F: Demonstrates *unsatisfactory* understanding or accomplishment. Preparation for and/or participation in class is absent. Assignments are missing.

If you are taking this course Pass / No Credit, you must earn a C- to pass.

Classroom engagement

Students are expected to attend all classes, having carefully read and studied the assignments, and to participate fully in group work and discussions, without distracting themselves or others. "Full engagement" means devoting one's *full* attention to class: listening attentively, taking notes, asking questions, making thoughtful comments, and working with classmates to complete in-class work. This contrasts with passive behavior (sitting motionless, sleeping, or staring into space) and distracted behavior (focusing on anything other than class, including work for another class). Texting, emailing, tweeting, surfing, snapchatting, instagramming, online shopping, etc. are strictly prohibited in class.

Late and missing work policy

An excused absence is one supported by documentation of university business, serious injury or illness, death in the family, religious observance, etc. All excused absences will be accommodated; otherwise, timeliness is expected for all coursework. Late homework will be penalized 20% per day late. Missed quizzes may not be made up; if the missed quiz is excused, the remaining grades will be averaged to take its place. Missed exams will be replaced with alternatives of the instructor's choosing, if excused. *To preserve exam integrity, exams may not be taken early.*

Academic integrity

Mutualistic collaboration, which supports the learning of all students involved, is welcome: students are encouraged to discuss reading and projects outside of class. Full collaboration is, in fact, expected in group work and projects. Parasitic collaboration, however, in which one person (the parasite) represents the work of another (the host) as his/her own, or allows the host to complete the majority of the work while the parasite contributes little, grievously damages the learning process of the parasite and risks harming the host as well. Any activity that *diminishes* the learning of *any* student involved is strictly prohibited. Activities that violate personal and institutional academic integrity include:

1. Fraud: The alteration of documents or data with the intent to deceive groupmates or the instructor.
2. Copying: Creating a submission for a graded exercise by reproducing another student's work.
3. Fabrication: Falsification or invention of information.
4. Plagiarism: Representing the work of another as one's own by omitting acknowledgement or reference.
5. Sabotage: Destruction of another's work.

If academic dishonesty is suspected, the instructor will meet with the student(s) involved to review the evidence and allow student(s) the opportunity to explain. If the instructor concludes that a violation occurred, penalties will be assessed as follows:

1. First or minor violation: Written warning and requirement to re-do the assignment in question.
2. Second or significant violation: A grade of zero on the assignment in question and referral to the Dean of Students, including the instructor's written summary of events and copies of supporting documentation.

Please refer to the University of Oregon Academic Integrity website (integrity.uoregon.edu) for further details.