



EnvE 10
The Environment in Crisis
University of California, Merced
Spring 2019

Lecturer: Lynn Sullivan
School of Engineering
lsullivan3@ucmerced.edu
Office Hours: MW
10:15pm-11:15pm AOA 146

Lectures:
Monday, Wednesday 11:30am-12:45 pm GRAN 125

Lab/Field/Workshop Sections:

Teacher's Assistant: Brandon Genco
Office Hours: TBA

Section 02L: T 8:00am-10:50am SE2 130

Section 03L: M 3:30am-6:20pm SE2 130

Textbooks and Supplementary Reading Materials:

Readings will be assigned from the required textbook listed below and from class handouts. The following textbook is required and is available for purchase at the campus bookstore:

Required Text: *Environment, The Science Behind the Stories* 6th Ed. by Jay Withgott and Mathew Labosata

Synopsis: This course will address one of the most pressing social issues of our time: the relationship between the world's rapidly growing human population and the global environment that makes human existence possible. The course will discuss many interactions between the environment and mankind, the worldwide environmental degradation currently being wrought by human activities, and the environmental protection and restoration essential to the long-term well being of Earth's human population. The course is designed for students from all backgrounds and should appeal to those who wish to learn more about current environmental issues widely discussed in the public and scientific media.

Goals of the course:

The goal of this course is to impart awareness of the key environmental issues facing the Earth, an understanding of the interactions between the environment and mankind, and of the social and scientific conservation and restoration mechanisms which are needed to achieve and sustain an acceptable quality of life for all.

Learning Outcomes

Students will:

- 1) Synthesize current and emerging issues concerning global environmental science
- 2) Explain and apply complex, multiple objectives related to environmental resource management and conservation
- 3) Learn to speak and write about environmental issues individually and as part of a team
- 4) Learn how their lives, in the context of society, have an environmental impact.
- 5) Critically analyze environmental issues, in particular responsibilities associated with sustainable living, from an economic, environmental, social, political, and ethical perspective
- 6) Perform scientific investigations including environmental data collection, experimentation, data analysis and computer simulations

General Education (GenEd) Credit:

Upon completion of the course, students will receive credit for a lower division Engineering course with a laboratory/studio component. Thus, the course will satisfy the Social Sciences, Humanities and Arts (SSHA) GenEd requirement for one Natural Science/Engineering introductory course with laboratory, field, or studio.

Class Structure:

EnvE 10 is a one-semester course carrying 4 units of academic credit. A schedule is attached in the following pages. The course meets together for two 90-minute lectures each week, and once per week in three-hour lab/field/studio sections. These lab/field/studio sections will engage the student in a variety of computer labs, field demonstrations, and workshops associated with environmental issues discussed in the lectures. The workload for the class encompasses weekly reading assignments, both from the class textbook and supplemental handouts, short homework assignments or in-class discussions related to the reading, two short writing assignments, and weekly lab reports. There will be 2 midterm exams and 1 final exam for the course.

Requirements:

Students are expected to attend all class sessions and all labs, participate in all class activities, complete exams as scheduled, and turn in all assignments on time. Class instruction is based on an interactive learning model. Your ideas, questions, thoughts, and opinions are welcomed.

Course Web Site:

Course information, including lecture outlines, reading, handouts, and all assignments and their due dates, will be available at the course website, which you should be able to access through the CatCourses portal.

Weekly activities:

Weekly activities will include homework and in-class activities. Two of the homework assignments will be writing assignments with specific writing skills stressed (see below). Other assignments will involve questions on the reading or supplemental material.

Written Assignments:

Two writing exercises will be required in this course; these will be due in February and March. The purpose of these writing assignments is to strengthen the student's ability to perform learning objectives 2-5.

<i>Writing assignment</i>	<i>Contents</i>	<i>Due Date</i>
Writing Assignment #1	Writing a Summary	February 6 (W)
Writing Assignment #2	Critical Thinking	March 13 (W)

Lab/Workshop Assignments:

10 labs/workshops are part of this course and will take place in your section "lab" meetings on Tuesday. The laboratory assignments are designed to help the students accomplish learning objectives 1-6.

Typically, a brief write-up or other work product from the labs will be due in lab or the following week after the conclusion of your lab meetings. These activities consist of a variety of computer labs, field labs and workshop-style activities, which will be closely related to the lecture material.

Course Calendar: Course calendar (Chapter #: Topic):

Week 1-(Introduction, course syllabus 1: Science and Sustainability, 2: Earth's Physical Systems)

Week 2-(8: Human Population, 3: Evolution, Biodiversity, and Population Ecology)

Week 3-(4: Species Interactions and Community Ecology)

Week 4-(5: Environmental Systems and Ecosystem Ecology, 14: Environmental Health and Toxicology)

Week 5-(11: Biodiversity and Conservation Biology)

Week 6-(Review of Chapters: 1-5, 8, and 14; Midterm 1- Chapters 1-5, 8, and 14)

Week 7-(Chapter 9: Soil and Agriculture 10: Agriculture and Biotechnology)

Week 8-(15: Freshwater Systems, 16: Marine and Coastal Systems)

Week 9-(6: Environmental Ethics and Economics, 7: Environmental Policy)

Week 10-(Spring Break)

Week 11 -(12: Forests, Forest Management and Protected Areas, 13: The Urban Environment)

Week 12-(Review of Chapters: 6, 7, 9-13, 15, 16; Climate; Midterm 2)

Week 13-(17: Atmospheric Science and Air Pollution 18: Global Climate Change)

Week 14-(19: Fossil Fuels, 20: Conventional Energy)

Week 15-(21: New Renewable Energy, 22: Managing Our Waste)

Week 16-(23: Minerals and Mining, 24: Sustainable Solutions, Review for Final)

Course schedule subject to change, advance notice will be provided

Examinations:

Midterms – Wednesday, **February 27, 2019**; Wednesday, **April 10, 2019**

Final – Wednesday, **May 8, 2019 at 11:30 am (Note: Final will be held in GRAN 125)**

Midterms and the final are also designed to include learning objectives 1-5. All exams will be closed book and will consist of mixtures of multiple choice, short answer (three complete sentences), and short essay questions. Questions on these topics will be drawn from the material presented in lecture, discussion/lab sections, guest speakers, in-class assignments, and from the assigned readings.

Participation:

Attending lectures and actively participating in-class discussions & activities, and lab/field/workshop sections are both important aspects of the course, and both will be graded (see below). I require that students attend at least one office hour during the semester to check on their course progress.

Grading:

The course grade is determined by performance on examinations, written papers, homework and in-class activities, participation in lectures and lab/field/workshop sections. There are 500 total points possible for the course, and they are distributed as follows:

Midterms	170 (2 midterms, 85 pts each)
Final	90
Homework, In-class activities, quizzes and participation	65 (7-9 activities x 5-10 pts each)
Writing assignments	50 (25 pts each x 2 assignments)
Lab/studio write-ups	125 (5-15 pts each x 10)
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Total	500

GRADING ELEMENTS

Earned grades will range as follows:

A+ 98-100%	B+ 87-89	C+ 77-79	D+ 67-69	F < 60
A 94-97	B 84-86	C 74-76	D 64-66	
A- 90-93	B- 80-83	C- 70-73	D- 60-63	

Extra Credit: To be determined

Late Homework Policy:

Late homework and labs are not accepted. You are expected to submit assignments on time.

Makeup Exam Policy:

No makeup exams will be given without a Doctor's note or a University approved absence.

Cell Phone Policy:

Cell phones should be turned off before entering the classroom.

Laptop Use in the Classroom:

No laptop computers or electronic devices to be used in the classroom unless part of the classroom assignment.

Disability Services:

The University of California Merced is committed to ensuring equal academic opportunities and inclusion for students with disabilities based on the principles of independent living, accessible universal design and diversity. Students with disabilities are encouraged to register with Disability Services Center to verify their eligibility for appropriate accommodations. I am also available to discuss appropriate academic accommodations that may be required.

UC Merced Disability Services
KL 109
(209) 228-6996
disabilityservices@ucmerced.edu

Academic Honesty Policy*:

“Thou Shall Not Cheat” Each student in this course is expected to abide by the University of California, Merced's Academic Honesty Policy*. Any work submitted by a student in this course for academic credit will be the student's own work.

During examinations, you must do your own work. Talking or discussion is not permitted during the examinations, nor may you compare papers, copy from others, or collaborate in any way. Any collaborative behavior during the examinations will result in failure of the exam and may lead to failure of the course and University disciplinary action.

What constitutes cheating?

The simple rule of thumb is: Never give finished answers to someone else or use someone else's finished answers. Such exchanges are definitely cheating and not cooperation.

Discussions, Cooperation, and Collaboration*

You are encouraged to discuss homework and other parts of the class with other students. Such discussions about ideas are not cheating, whereas the exchange of finished, written answers is cheating. When you cooperate on solution ideas or collaborate on producing final answers with other students, you must cite the other students you worked with as follows. This must be done for each problem on which you cooperate or collaborate. (That is, if you work with someone on a problem, you don't need to work together on the entire homework.) You can give "consulting" help to or receive "consulting" help from such students. However, this permissible cooperation should never involve one student having possession of a copy of all or part of work done by someone else, in the form of an e-mail, an e-mail attachment file, a diskette, or a hard copy. Should copying occur, both the student who copied work from another student and the student who gave material to be copied will both automatically receive a zero for the assignment. Penalty for violation of this Policy can also be extended to include failure of the course and University disciplinary action

Note that substantial collaboration on solutions between students that is not cited as described above is considered cheating. Such cheating will be dealt with as described above.

Finally, if you use reference materials (other than the course texts) to solve a problem, you must give a citation. This includes material from the web. Not doing so is plagiarism (i.e., cheating). All writing assignments will be submitted through Turnitin in CatCourses and as a hard copy.

*The **University of California Academic Honesty Policy** is found at: <http://studentlife.ucmerced.edu/what-we-do/student-judicial-affairs/academicy-honesty-policy>

**THIS DOCUMENT & COURSE SCHEDULE IS SUBJECT TO CHANGE.
ADVANCE NOTICE WILL BE GIVEN.**