



EnvE 10  
*The Environment in Crisis*  
University of California, Merced  
Fall 2021

**Lecturer:** Lynn Sullivan  
School of Engineering  
[lsullivan3@ucmerced.edu](mailto:lsullivan3@ucmerced.edu)

Office Hours SRE 203: M & W 10:30am-11:30am after class as needed or by arrangement through Zoom

**Lectures:** M, W 12:00pm-1:15 pm SSB 120

**Lab/Field/Workshop Sections:**

Teacher's Assistants: James Kupihea [kupihea@ucmerced.edu](mailto:kupihea@ucmerced.edu) and Anna Jurusik, [ajurusik@ucmerced.edu](mailto:ajurusik@ucmerced.edu),

Section 02L: T 1:30pm-4:20pm SE2 130 - James Kupihea

Section 03L: T 10:30am-1:20pm SE2 130 - Anna Jurusik

Section 04L: W 7:30am-10:20am SE2 130 - James Kupihea

Section 05L: W 1:30pm-4:20pm SE2 130 - Anna Jurusik

**Textbooks and Supplementary Reading Materials:**

Readings will be assigned from the required textbook listed below and from class handouts and Internet postings.

**Required Text:** *Environment, The Science Behind the Stories* 7<sup>th</sup> Ed. by Jay Withgott and Mathew Labosata. The electronic version will be available online, be sure to include the mandatory, *MyLab and Mastering*.

**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:**

This course aims to impart awareness of the key environmental issues facing the Earth, an understanding of the interactions between the environment and humankind, and the social and scientific conservation and restoration mechanisms that 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) Articulate environmental issues individually and as part of a team
- 4) Analyze and describe 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
- 7) Synthesize and organize environmental investigations into clear scientific reports, including abstracts, introductions, methods, results, discussion, and conclusions.

## **General Education (GenEd) Credit:**

Upon completing 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 four 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. In addition, there will be two midterm exams and one final exam for the course.

## **Requirements:**

Students will attend all class sessions, 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. It has consistently been a focus of mine to cultivate an atmosphere of diversity and inclusiveness. I believe grooming such an atmosphere allows students of different perspectives to bring forth their views to the forum of discussion and expose others to viewpoints they may have not

previously had access to. In addition, agile thinking is essential for today's work environment, diversity is a vital component in fostering students to be flexible in their thinking.

### **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 will be able to access through the CatCourses portal.

### **Weekly activities:**

Weekly activities will include homework and in-class exercises. Two of the homework assignments will be writing assignments with specific writing skills stressed (see below). Other duties 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 September and November. The purpose of these writing assignments will strengthen the student's ability to perform learning objectives 2-5.

<b><i>Writing assignment</i></b>	<b><i>Contents</i></b>	<b><i>Due Date</i></b>
Writing Assignment #1	Writing a summary	Sept 12
Writing Assignment #2	Critical Thinking	Nov 14

### **Lab/Workshop Assignments:**

10 labs/workshops are part of this course and will take place in your section "lab" meetings on T or W. The laboratory assignments are designed to help the students accomplish learning objectives 1-7.

**Typically, a brief write-up or other work product from the labs will be due in the 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-(3: Evolution, Biodiversity, Population Ecology)

Week 3-(8: Human Population, 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, 15: Freshwater Systems)

Week 6-(9: Soils: Review of Chapters: 1-5, 8, 11, and 14 Midterm 1- Chapters 1-5, 8, 11 and 14)

Week 7-(10: Agriculture and Biotechnology, 16: Marine and Coastal Systems)

Week 8- (6: Environmental Ethics and Economics, 7: Environmental Policy)

Week 9-(12: Forests, Forest Management and Protected Areas,)

Week 10-(13: The Urban Environment; Midterm 2)  
 Week 11-(17: Atmospheric Science and Air Pollution 18: Global Climate Change)  
 Week 12-(19: Fossil Fuels)  
 Week 13- (20: Conventional Energy, 21: New Renewable Energy)  
 Week 14-(22: Managing Our Waste, 23: Minerals and Mining)  
 Week 15-(24: Sustainable Solutions, Review for Final)  
 Week 16-(Final)

**Course schedule subject to change, advance notice will be provided.**

### **Examinations:**

Midterms – Wednesday, **Sept 29, 2021**; Wednesday, **October 27, 2021**

**Final – Wednesday, December 8, 2021.**

Midterms and the final are also designed to include learning objectives 1-5. All exams will be closed book and consist of a mixture of multiple-choice, short answer, 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 the assigned readings.

### **Participation:**

Attending lectures and actively participating in in-class discussions & activities and lab/field/workshop sections are essential aspects of the course, and both will be graded (see below). The class participation grade is determined by attendance in the class and contributions to the class discussions. Students will only be able to present significantly if they have carefully read the assigned readings for the course. Missing class could negatively impact your grade. Disrupting class could also lower your participation grade. Students should keep the topic at hand, not talk out of turn, wait to be recognized before speaking and try not to dominate a discussion with your questions or comments – give others a fair opportunity to participate. Students will attend at least one office hour during the semester to discuss 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	110 (2 midterms, 55 pts each)
Final	60
Homework, In-class activities, quizzes and participation	65 (7-9 activities x 5-10 pts each)
MyLab and Mastering	90
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

All components are essential. Students will not receive a passing grade in this course if they have not completed every constituent of the curriculum.

### **GRADING ELEMENTS**

Earned grades will range as follows:

A+ 98-100%	B+ 87-89	C+ 77-79	D+ 67-69	F <60
A 96-97	B 84-86	C 74-76	D 64-66	
A- 90-95	B- 80-83	C- 70-73	D- 60-63	

**Extra Credit:** To be determined

#### **Late Homework Policy:**

Late homework and labs are not accepted. Students will submit assignments online when designated on time.

#### **Makeup Exam Policy:**

No makeup exams will be given without a Doctor's note or a University-approved absence. All make-up homework with doctor's notes must be completed and submitted by December 5, 2021.

#### **Let's set the stage for a positive classroom experience by:**

##### **Entering / Exiting Class:**

Students will arrive on time to class and stay for the entire class period. Late arrivals and early departures are disruptive. If you arrive late despite your best effort, please quietly take a seat at the back of the classroom. Similarly, in the rare event that you must leave early (e.g., for a medical appointment), email me in advance to let me know, then sit close to the rear door and exit as unobtrusively as possible. Students who cannot comply with the course schedule and must always leave early due to time conflicts must either seek my specific permission or not enroll in the class. During exams, students should try to use the restroom before coming to class, ask permission before leaving to use the restroom.

##### **Noise:**

When class begins, please stop your conversations.

Students will wait until class is dismissed before putting their materials away in their backpacks, standing up, or talking to friends.

##### **Electronic Devices:**

Students will not use their computer in class unless directly related to class activities. Students will not tape, film, or use photography in class without my prior permission (whether by camera, cell phone, or other means). These activities are distracting and may infringe upon privacy or copyright. Furthermore, they have a chilling effect on classroom discussion. Students will respect class time by turning off cell phones. No talking on cell phones, text messaging or emailing on laptops during class. Wait until after class to return any calls received. Instant messaging programs, Facebook, Instagram, or other social

networking sites, internet surfing, and similar activities should not be performed during class time.

**Email Etiquette:**

Students will be expected to communicate as in any professional correspondence. Students will include the course and subject matter in the letter. Email communication should be courteous and respectful in manner and tone. Do not send emails that are curt or demanding. Do not expect an immediate response via email (typically, a response will be sent within two business days). If your email question is sent at the last minute, it may not be possible to send you a response before an assignment is due or a test is given. Do not post personal information about yourself or others to the class list serve or CatCourse site. For example, if you are having trouble with a lab partner, you should see the instructor in person to discuss the specifics of the issue. Complex issues and questions should be set aside for office hours. Students will be encouraged to be curious; I am looking forward to seeing students in person, live in office hours.

**Common Courtesy:**

Food and drink are discouraged in class. This could potentially violate UCM current face covering requirements. However, there may be times that you need a beverage or small snack during class. Avoid bringing in large meals or food that is noisy when unpackaged or chewed.

**Face Coverings:**

“Face covering” means a surgical mask, a medical procedure mask, a respirator is worn voluntarily, or a tightly woven fabric or non-woven material of at least two layers. A face covering has no visible holes or openings and must cover the nose and mouth. A face covering does not include a scarf, ski mask, balaclava, bandana, turtleneck, collar, or a single layer of fabric. All individuals must wear face coverings on UC Merced controlled property when indoors, on UC Merced operated Public Transit or while traveling in fleet vehicles when not alone. Face coverings are required for students at all times in the classroom. Face coverings are available for free at the following locations:

[https://doyourpart.ucmerced.edu/sites/doyourpart.ucmerced.edu/files/documents/fastenal\\_vending\\_machines\\_and\\_mask\\_distribution\\_points\\_map.pdf](https://doyourpart.ucmerced.edu/sites/doyourpart.ucmerced.edu/files/documents/fastenal_vending_machines_and_mask_distribution_points_map.pdf)

Merced County is currently considered an area of substantial or high transmission by CDC’s COVID-19 Integrated County View. However, should Merced County be an area of moderate or low transmission, the University will adjust this directive accordingly.

Face covering directive Issued by Chancellor Juan Sánchez Muñoz

**Zoom Meeting Etiquette and Policy:**

- [Mute your microphone](#)
- To help keep background noise to a minimum, be sure to mute your microphone when you are not speaking.
- Be mindful of background noise.

- When your microphone is not muted, avoid activities that could create additional noise, such as shuffling papers and playing basketball.
- Position your camera properly
- If you choose to use a web camera, be sure it is stable and focused at eye level, if possible. Avoid driving your car with camera on. Doing so helps create a more direct sense of engagement with other participants.
- Limit distractions
- You can make it easier to focus on the meeting by turning off notifications, closing or minimizing running apps, and [muting your smartphone](#).
- Avoid multi-tasking
- You'll retain the discussion better if you refrain from replying to emails or text messages during the meeting and wait to work on that PowerPoint presentation until after the session ends.
- Prepare materials in advance.
- If you are sharing content during the meeting, make sure you have the files and/or links ready to go before the meeting begins.
- Consider your virtual time in a Zoom classroom or lab vital to your success in this course.
- Adapted from University of Pittsburg IT

### **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 reasonable academic accommodations that may be required.

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

More resources to help you succeed:

- One-stop site featuring **student resources**: <https://success.ucmerced.edu/>
- **Tutoring services** continue! Virtual sessions: <https://learning.ucmerced.edu/programs/tutoring>
- **Academic advisors** play a key role in supporting students' academic progress, with guidance on policies, petitions, and campus resources: <https://ssha-advising.ucmerced.edu/>
- **Counseling and Psychological Services (CAPS)** Continuity of care with psychological services is available with online sessions (individual and group, scheduled and drop-in).

### **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 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 email, an email 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 in Microsoft Word format. You will be required to use Microsoft Word and Excel. This is available for to UCM students are given free access to the entire MS Office Suite. This is available at



<https://it.ucmerced.edu/node/2301>. It is highly recommended to submit your work a full day in advance of due dates.

\*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.  
WE WILL BE FLEXIBLE AND ADAPTABLE. ADVANCE NOTICE WILL  
BE GIVEN.**