

ENST 100: Introduction to Environmental Studies

Fall 2020, TTH 2:00-3:20 pm

Section 33004; 4 Units

Location: ONLINE

Instructor: Dr. David Ginsburg, Assoc. Prof. (Teaching), ENST

Preferred Pronouns: *he, him, or his*

Office: ONLINE

Office Hours: Available by appointment (via Zoom) on MWF;

See: <https://calendly.com/ginsbuda> for details.

Email: dginsbur@usc.edu

Course Description

This course will give you an overview of how the natural world works, the ways in which humans are perturbing the earth and how governments and society are addressing environmental degradation.

Recommended preparation: ENST 100

Course Learning objectives

Student learning objectives for this course are aligned with those of the ENST Program (see [link](#)):

Students will:

- Learn about the physical, chemical and biological aspects of the environment
- Discuss issues facing the environment from a scientific and social perspective
- Examine how environmental issues affect humans from multiple perspectives
- Study environmental degradation through policy, science and human behavior

Course Overview

This course will be taught online via Zoom. Outside of our regularly scheduled Zoom lectures, we will use Blackboard for communicating with one another, class updates and submitting assignments. PDF copies of lecture slides, links to topics discussed during class and lecture recordings via Zoom will be made available after each lecture is given. Additional readings will be assigned throughout the semester, and will be announced during lecture, posted on Blackboard and via email messages sent to the class.

During some lectures, we will work with spreadsheet data (in Excel) and run simple simulations or experiments as a class (see course schedule for specific dates). You are responsible for all notifications and assignments discussed during lecture and posted online via BlackBoard. This is a 4-unit, general education course, which requires in-depth reading and critical analysis outside of lecture.

Participating and engaging in courses online can be challenging (for both students and instructors). Nevertheless, I will strive to work with each of you to the best of my abilities. Please contact me with any issues that are impacting your ability to learn (e.g., internet connectivity, or other obstacles) and I will do my best to help (or will refer you to someone that can).

Course Textbook and Readings

You have the option of using two different textbooks for this course (see below; you do NOT need both books). Both are equal as far as content is concerned – however, one book costs money and the other is available for free via the USC Libraries. Readings from both textbooks are outlined on the course schedule.

- [Essentials of Environmental Science](#) by Friedland and Relyea. W.H. Freeman & Co., 2016 ISBN-13: 978-1-319-06566-9 (**referred to as ESS in course schedule, below**) (Costs \$\$)

- Environmental Science by Miller and Spoolman. Delmar Cengage Learning, 2016, 15th Ed. ISBN 13: 9781305090446 (**referred to as ES in course schedule, below**) Free via USC Libraries Link: <https://www-r2library-com.libproxy1.usc.edu/Resource/Title/1305090446>
- Additional readings will be assigned throughout the semester and will be available on Blackboard

Description and Assessment of Exams and Assignments

You will be graded on the basis of your performance on exams, written assignments, inside and outside-class activities and class participation. Exam questions will be drawn from course readings, lecture materials and any related assignments, activities and discussions. Each exam will cover the lecture and material immediately after the preceding exam (or starting on the first day of class for Exam 1). The final exam will carry the same weight as Exam 1. (100 pts each; 200 pts total)

If there is a conflict with an exam, you must notify me via email at least one-week in advance to see if alternative arrangements can be made. ***Otherwise, no make-up exams will be allowed.*** If a student misses an exam, assignment or activity they will receive a zero for that portion of the course. Exams will be timed and administered via Blackboard (details will be released closer to the date on the course schedule). Failure to comply with exam policies will result in a zero for that particular exam.

Late Assignments will have 20% deducted each 24 hours, with the first 24 hour deduction starting 15 min after the deadline. Regarding in-class activities: If you cannot make it to a class, you will need to let me know prior to the start of a class. If it is an excused absence (official USC travel, or you live overseas), then I will provide you with an alternative way to obtain the associated activity points outside of class

Overview of Assignments and Activities

- **Article analysis:** Approximately one page summary of an article from either the primary or secondary literature, which is based on a topic covered in class. Each student will critically read a given article and provide written answers to questions (available online), which they will then submit via Bb. Students will discuss their findings during class on the day each assignment is due (2 articles, 25 pts each; 50 pts total)
- **Story map:** Online, image-based story that has been thoughtfully created, given context and provided with supporting information so it becomes a stand-alone resource. It integrates maps, legends, text, photos and provides functionality, such as swipe, pop-ups, and time sliders, that helps users explore the content in either a linear or non-linear fashion. Each student will create their own story map, which will be focused on some aspect of biodiversity (more details to come during lecture; 45 pts total)
- **Life table analysis:** Activity in which individual students develop and answer questions comparing (via Excel) the survival patterns of different groups of humans (e.g., groups that differ in geographic area, time period, gender, socio-economic background, or ethnicity). Students will collect life table data available online from cemeteries that provide ages, genders and dates at death submit (via Bb) a 1-2 page written summary of their experimental results and conclusions. (30 pts total).
- **Seawater study:** Activity in which individual students will evaluate temporal changes in monthly seawater that has been collected at different depths off the Santa Monica Pier. Specifically,

students will analyze and compare (via Excel) monthly surveys of a variety of seawater parameters such as dissolved oxygen, temperature, salinity and turbidity, and submit (via Bb) a 1-2 page written summary of their experimental results and conclusions (30 pts total).

- Lastly, the **kitchen chemistry activity** is designed as a hands-on experiment that students will conduct at home in order to better understand the process of fermentation. I will outline the materials needed and guide you through the protocols required to complete the experiment on your own. Once completed, students will submit (via Bb) a 1-2 page written summary of their experimental results and conclusions. Not only will chemical principles be examined, but also biochemical, biological, microbiological processes and maybe even a little physics. **See below for the list of materials required to complete this assignment, which is scheduled for Tuesday, March 16.** Students not prepared to conduct this activity on the date that it is scheduled will receive a zero for the assignment (45 pts total).

Kitchen Chemistry Activity: Required Materials

Available at local markets, stores and via retailers online (contact me if you have difficulties)

- 4 plastic or glass soda/drink containers (the 12 to 16.9 oz sizes are ideal...can easily find these bottles in recycling bin – just be sure to clean and dry before using)
- 4 party balloons (12 inch diameter)
- 4 packets of 0.25 oz Active Dry Yeast (available at most grocery stores)
- 4 cups granulated sugar
- Measuring cup and teaspoon (see [link](#) if you don't have these)
- Small funnel (see [link](#) if you don't have one)
- 4 cups of luke-warm water (tap water is fine)

Grading Breakdown

Assignment	Points	Grade %
Exam 1	100	22.7%
Exam 2	100	22.7%
Article analyses (2 x 25 pts)	50	11.5%
Biodiversity Story Map	45	10.2%
Kitchen chemistry activities	45	10.2%
Life table and survivorship analysis	30	6.8%
Analysis of surface ocean waters	30	6.8%
Participation (quizzes, discussions, etc.)	40	9.1%
TOTAL	440	100%

Grading Scale

Your final grade will be determined based on the percentage of points earned as outlined below. This scale may be adjusted depending on the progress of the class. If course taken as a "Pass" grade student must earn a C- or greater in course (scores at or below a D+ grade = "No Pass").

>93 = A; 90-92 = A-

87-89 = B+; 83-86 = B; 80-82 = B-

77-79 = C+; 73-76 = C; 70-72 = C- (Note: C- is minimum score required for Pass grade)

67-69 = D+; 63-66 = D; 60-62 = D-

<59 = Fail

Ground rules for classroom (online and in-person)

- Share responsibility for including all voices in a conversation
- Listen respectfully to your classmates and your instructor's viewpoints
- Be open to changing your perspectives based on what you learn from others
- Understand that we are bound to make mistakes in this space
- Understand that your words have effects on others
- Take group work during class and outside of lecture seriously
- Understand that others will come to these discussions with different experiences from yours
- Make an effort to get to know your classmates
- Understand that there are different approaches to solving problems

Additional Policies

Routine attendance and active participation are an important part of each class session. Participation will be evaluated via thought exercises, reading assignments and in-class questions. You are responsible for information, announcements, date changes and any other course material presented, regardless of your participation and/or presence in the classroom.

Course Schedule

For the best learning experience, you are expected to have read the assigned material by the date it is discussed in class. Articles, supplemental readings and in-class data sets will be posted online. The readings and schedule of topics may be adjusted throughout the semester depending on progress of the class.

Date	ENST 100 Course Topics, Activities and Assignments	Students with EES textbook	Students with ES textbook
Jan 19	Introduction and course overview		
Jan 21	Interpreting environmental data	Ch. 1	Ch. 1
Jan 26	Earth as a system	Ch. 2	Ch. 2
Jan 28	Ecosystems and biomes I	Ch. 3	Ch. 7
Feb 2	Ecosystems and biomes II Article analysis and discussion (see Bb)	Ch. 3	Ch. 7
Feb 4	Ecosystem ecology	Ch. 3	Ch. 3
Feb 9	Population and community ecology I	Ch. 4	Ch. 5
Feb 11	Population and community ecology II	Ch. 4	Ch. 5
Feb 16	Conservation biology and endangered species I Biodiversity Story Map (see Bb)	Ch. 13	Ch. 8
Feb 18	Conservation biology and endangered species II	Ch. 13	Ch. 8
Feb 23	Population growth	Ch. 5	Ch. 6
Feb 25	Life table and survivorship curve (Excel, see Bb)	Asynchronous Lecture	
Mar 2	Land and water resources	Ch. 7, 9	Ch. 9, 11
Mar 4	**Midterm Exam 1 (online via Bb)**		
Mar 9	Non-renewable energy	Ch. 8	Ch. 13
Mar 11	Renewable energy & biofuels I	Ch. 8	Ch. 13
Mar 16	Kitchen chemistry fermentation experiment (see Bb)	Asynchronous Lecture	
Mar 18	Renewable energy & biofuels II	Guest Speaker	
Mar 23	<i>USC Wellness Day – No Class Scheduled</i>		
Mar 25	Food and agriculture	Ch. 9	Ch. 11

Mar 30	GMOs and aquaculture Article analysis and discussion (see Bb)	See Bb	
Apr 1	Climate, science and people	Ch. 14	Ch. 15
Apr 6	Water and Coastal Pollution I	Ch. 9, see Bb	Ch. 11, see Bb
Apr 8	Analysis of seawater off Santa Monica Pier (Excel, see Bb)	Asynchronous Lecture	
Apr 13	Water and Coastal Pollution II	Ch. 9, see Bb	Ch. 11, see Bb
Apr 15	Air pollution	Ch. 10	Ch. 15
Apr 20	Environ. justice and urban air pollution in LA	Ch. 15	Ch. 17
Apr 22	<i>USC Wellness Day – No Class Scheduled</i>		
Apr 27	Human health risk and the environment	Ch. 12	Ch. 14
Apr 29	Lecture topic and materials TBA		
May 12	**Midterm Exam 2 (Final; online via Bb): 2:00 to 4:00 PM, Weds, May 12**		

Statement on Academic Conduct and Support Systems

Computer Support: Zoom or general IT USC Support: Phone: 24/7 on call: 213-740-5555; Email: consult@usc.edu. Blackboard Support: Phone: 213-740-5555 (option 2, 24/7 on call); Email: blackboard@usc.edu

Academic Conduct: Plagiarism is an academic offense with serious consequences. Familiarize yourself with its definition in [SCampus](#). Other forms of academic dishonesty are equally unacceptable. See additional information in [SCampus and university policies](#) on scientific misconduct.

Counseling and Mental Health: (213) 740-9355; 24/7 on call. Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops and crisis intervention. See [link](#) for details.

National Suicide Prevention Lifeline: (800) 273-8255; 24/7 on call. Free and confidential emotional support to people in suicidal crisis or emotional distress. See [link](#) for details.

Relationship and Sexual Violence Prevention Services: (213) 740-9355; 24/7 on call. Free and confidential therapy services, workshops, and training for situations related to gender-based harm. See [link](#) for details.

Office of Equity and Diversity: (213) 740-5086; Title IX: (213) 821-8298. Information on how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors and applicants. See [link](#) for details.

Reporting Incidents of Bias or Harassment: (213) 740-5086 or (213) 821-8298. Report incidents of bias, hate crimes and microaggressions to the Office of Equity and Diversity, Title IX for appropriate investigation, supportive measures and response. See [link](#) for details.

The Office of Disability Services and Programs: (213) 740-0776. Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology and support for individual needs. See [link](#) for details.

USC Campus Support and Intervention: (213) 821-4710. Assists students and families in resolving complex personal, financial and academic issues adversely affecting their success as a student. See [link](#) for details.

Diversity at USC: (213) 740-2101. The Provost's Diversity and Inclusion Council provides information on events, programs and training resources students at each academic school. See [link](#) for details.

USC Emergency: UPC: (213) 740-4321; HSC: (323) 442-1000; 24/7 on call. Emergency assistance and means to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. See [DPS link](#) and [Emergency link](#) for details.

USC Department of Public Safety: UPC: (213) 740-6000; HSC: (323) 442-120; 24/7 on call. Non-emergency assistance or information. See [link](#) for details.