

**Instructors:**

Dr. Dale Kiefer      Dr. Carly Kenkel      TA:  
 11a Tu/Th              (she/her)              Jake Park  
 Office Hrs:            or by appt              By Appt              [jdpark@usc.edu](mailto:jdpark@usc.edu)  
 Location:              AHF M235              AHF 231A  
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**Lecture times & Location: Tue/Thu 930-1050am, ZHS 352**

**Lab Location: ZHS 257**

**Textbooks:** Ecobeaker/Evobeaker BISC 102 Custom, Meir  
 SimUText  
 Additional materials provided by instructors

**Websites/Links:** Assignments & Grades: <https://blackboard.usc.edu>  
 Lectures: <https://usc.zoom.us/j/99231519985?pwd=bXcrakJhMUhrRjJaeGNTMFExc2JvZz09>  
 General Q&A: Blackboard Discussion Forum

**Course Description**

This one semester course introduces major aspects of general biology and focuses specifically on the ecological tug of war between humans and their physical and biological environment. We will explore major topics in agriculture, biodiversity, ecosystem structure and function, pollution, and population dynamics from both historical and contemporary perspectives. The overarching aim of this course is to provide students with background knowledge sufficient to understand major challenges facing human societies today, including how to feed the world, control disease outbreaks, and sustainably manage ecosystems in the face of climate change. Please note that this course satisfies the GE-D, Life Sciences requirement and is not designed for those majoring in biology or health sciences. For students wishing to major or minor in Environmental Studies, ENST 100 is the required entry-level course.

Prerequisites: None, although a working knowledge of high school biology is recommended.

**Specific learning objectives. By the end of this course,** students will be able to:

- 1) Explain basic concepts in biology and ecology.
- 2) Outline major biological challenges facing contemporary human societies.
- 3) Compare and contrast proposed solutions to major biological challenges.
- 4) Demonstrate basic public speaking skills.
- 5) Demonstrate critical thinking when evaluating scientific literature.

**Schedule of lecture and lab topics.** *Note that the schedule is subject to change.* Any schedule changes will be discussed in class and posted on Blackboard. Readings should be completed before each class.

Date	Lecture	Lecturer	Readings/Assignments	Lab
Jan 10	1. Course Introduction Anthropogenic Planet	Kiefer	Selections: <i>Stars &amp; Beetles</i> ; <i>De Rerum Natura</i> (Lucretius)	No Labs this Week
Jan 12	2. Discussion of Stars & Beetles article	Kiefer	<i>De Rerum Natura</i> (Lucretius)	

Jan 17	3. Human Evolution	Kiefer	Selections: <i>Sapiens</i> <b>Essay on <i>De Rerum Natura Due</i></b>	1. Prove It! Review of Term Project
Jan 19	4. Human Evolution: Revolutions	Kiefer	Introduction to Scott's "Against the Grain"	
Jan 24	5. Population Dynamics & Human Population	Kiefer	ST Pop. Growth: 1, 2, 3	2. Becoming Human Lab
Jan 26	6. Ecology: Photosynthesis & Respiration & Energy	Kiefer	ST Physiological Ecology 4	
Jan 31	7. Origins of Life	Kiefer	Lane "Life Ascending"	3. Field Trip: Cal Sci Ctr
Feb 02	8. Ecosystem Structure: Trophodynamics	Kiefer	ST Ecosystem Ecology: 1 & 2 <b>Term paper topic must be approved by Today</b>	
Feb 07	<b>MIDTERM 1</b> Lec 1-8	Kiefer		4. ST Biogeography 1-4
Feb 09	9. Ecosystem Structure 2: Function	Kiefer	ST Ecosystem Ecology: 4	
Feb 14	10. Community Structure	Kiefer	ST Community Dynamics 1,2,3	5. Term Paper Workshop 1: Annotated Bibliographies
Feb 16	11. Darwinian Evolution	Kiefer	ST Evolution for Ecology 1 & 2	
Feb 21	12. Mendelian Genetics	Kiefer	ST Evolution for Ecology 3	6. Field Trip: NHMLA
Feb 23	13. CSI Bisc 102	Kenkel	Atlantic Article and Blog Post	
Feb 28	14. Infectious Disease Dynamics	Kenkel	National Geographic Article	7. ST How Diseases Spread 1,2,3
Mar 02	15. Biotech & Disease Control	Kenkel	World Economic Forum & Medium Articles	
Mar 07	16. COVID: A Case Study	Kenkel	Atlantic Article	No Labs this Week
Mar 09	<b>MIDTERM 2</b> Lec 9-16	Kiefer/ Kenkel		
Mar 14/16	<b>SPRING BREAK</b>			
Mar 21	17. The Selfish Gene 1	Kiefer	Selections: Dawkins <i>The Selfish Gene</i>	8. Term Paper Workshop 2: Outlines
Mar 23	18. The Selfish Gene 2	Kiefer	Selections: Dawkins <i>The Selfish Gene</i>	
Mar 28	19. Selfishness vs Cooperation: Saving the Natural World	Kiefer	ST Biogeography 1, 2; Selections from Nowack "Super Cooperators"	9. Presentation of Research Topic <b>PDF due today</b>
Mar 30	20. Feeding the world	Kenkel	National Geographic Article	
Apr 04	21. GMOs OMG!	Kenkel	Scientific American Article	10. Presentation of Research Topic
Apr 06	22. Invasive Species	Kenkel	Smithsonian Article	
Apr 11	23. Biocontrol	Kenkel	Smithsonian Article	11. Term Paper Workshop 3: Peer Review
Apr 13	24. Pollution	Kenkel	Clean Cars 4 All	

Apr 18	25. Water	Kenkel	NY Times Articles; WRI blog	12. Water Quality Lab
Apr 20	26. Climate change 1: What do we really know?	Kenkel	IPCC Summary for Policymakers: SPMA <b>Term Papers Due</b> via Turnitin	
Apr 25	27. Climate change 2: What does it really mean?	Kenkel		13. Coral Bleaching Lab
Apr 27	28. Restoration Ecology	Kenkel	Mission Iconic Reefs (p1-18)	
May 09	<b>MIDTERM 3</b> Lec 17-28	Kenkel	8-10 a.m.	

**Description of Assessments and Assignments**

Pop Quizzes. Short, in-class quizzes will occur throughout the semester based on the assigned readings and lecture materials and must be completed at that time. Your lowest quiz score will be dropped to accommodate one unplanned absence.

Lucretius Essay. You will write a short response (~2 pages) to the *De Rerum Natura* reading and submit via Blackboard. Specific guidelines will be given in lecture. Selected essays will be posted to Blackboard.

Term Paper. You will write an 8-10 page research paper on a topic of your choosing within the scope of Human-Environment interactions. You must obtain approval for your general topic selection by February 2nd. Prior to submitting the final paper (Due April 20), you will also create an annotated bibliography in lab (Due week of February 14<sup>th</sup>) and an outline for your paper (Due week of March 21<sup>st</sup>). You will also give and receive peer feedback on your draft papers (week of April 11<sup>th</sup>). Specific directions, rubrics and Turnitin links can be found on Blackboard under *Assignments & Labs* and will be discussed in your lab sections during the week of January 17<sup>th</sup>.

Term Presentation. You will script and create a visual aid (i.e. powerpoint) for an 8-10 minute presentation in order to share the findings of your research topic with your lab mates. Feedback from these presentations can be used to improve your final term paper. Specific directions will be provided in your lab section and additional guides and rubrics can be found on Blackboard under *Assignments & Labs*.

Midterm Exams. There will be three midterm exams consisting of 25-30 multiple choice/short answer questions (worth 70 points) and three essay questions (select 3 out of 5 prompts to respond to, worth 10 points each). Material will be drawn from lectures, readings, and laboratory material. You will have the option of creating a hand-written ‘cheat sheet’ for each exam on one 5 x 8 inch notecard.

Lab Assignments. You will be required to complete in-lab exercises using the guidelines and resources provided and following instructions given by your TA. Specific rubrics and due dates will be specified by your TA at each lab meeting.

**On-line Resources**

Lectures will be recorded live when possible and posted to blackboard at the end of class, however, it is our expectation that you plan to attend lecture in person.

Additional readings for specific lectures and/or links to on-line resources will be posted on Blackboard during the semester.

### Course Policies

**COMMUNICATION:** For general questions the Blackboard discussion forum is the preferred form of communication. For personal or private questions, please email the specific instructors. Responses can be expected within 48 hours, although there may be an additional delay over weekends/holidays. If a one on one meeting is desired, please utilize office hours or email a request to set up an alternate meeting time. Dr. Kenkel's office hours are by appointment. Bookings can be made at <https://drcarlykenkel-bisc102.youcanbook.me/>.

Students are responsible for logging onto Blackboard (<https://blackboard.usc.edu>) on a regular basis. Blackboard will be an official source for announcements, course materials, lecture notes, and score postings. The discussion board will be used as a forum for general discussions and questions. Mid-term exam and lecture quiz scores will be posted under your LECTURE SECTION. Lab grades will be posted in your individual lab sections and summed periodically in the lecture section grade page. It is the student's responsibility to immediately notify the instructors in the event of any mistakes, so please check scores weekly.

**TECHNOLOGY:** Students will need an internet-enabled device with browser capabilities. Students who require a laptop can check one out through the *Laptop Loaner Program* <https://itservices.usc.edu/spaces/laptoploaner>.

**GRADES:** Any document associated with grading may be photocopied by the instructional staff. Midterm exams and or the final letter grade may be assigned on a curve based on the class distribution and determined by the total number of points as follows.

	Points possible	Percent
Midterm Exam x 3 (100 points ea.)	300	39%
Quizzes x 10 (5 points ea.)	50	6%
Lucretius Essay	10	2%
Presentation Peer Reviews x 2 (20 points ea.)	40	5%
Lab Assignments x 12 (20 points ea.)	240	31%
Term Paper Topic Approval	5	1%
Annotated Bibliography	30	4%
Final Paper	50	6%
Presentation	50	6%
<b>TOTAL</b>	<b>775</b>	<b>100%</b>

**EXAM RE-GRADING:** All graded documents will be graded in the context of expectations set by an initial evaluation of all student responses. If you feel that an error was made in the grading of an examination or lab activity, you need to do the following: Attend office hours to review your exam or assignment, and discuss your score with your instructor. Your entire exam or assignment may be re-graded and, as a result, your grade may increase or decrease from a requested re-grade.

**EXTRA CREDIT:** There are no extra credit opportunities and no exceptions to this policy.

**LATE WORK:** You have an account of 6 unexcused late days which you may spend on lecture or lab assignments apart from the midterm exams, lecture quizzes, and in-lab presentations on weeks 9/10. All late assignments must be uploaded to Blackboard or to your TA personally and will be time stamped. A

late submission incurs an automatic time charge but will be eligible for full credit during grading. The time difference will be deducted from your account and tracked in the blackboard grade center in the 'late days spent' column. Once all days are used unexcused late work will no longer be accepted.

Policy on Absences:

**UNPLANNED ABSENCES:** You may be excused in the event of a documented illness or emergency as outlined by university policy, with notification to the TA or Instructor team **within 48 hours**. An invalid excuse, or the excuse turned in late, will result in the standard penalty for the activity missed. Late days cannot be applied to exams or lab presentations. If you miss the final examination and have provided a valid medical excuse within 72 hours of the examination time, a final course grade of incomplete (IN) will be recorded, and you will be permitted to take a make-up final examination during the following semester.

**PLANNED ABSENCES:** Students who wish to miss an examination or lab activity for observance of a religious holy day should be aware of the University's policy on such absences, published at <https://orl.usc.edu/life/calendar/absences/>. If the absence is approved as determined by the USC Office of Religious Life, a reasonable accommodation will be provided. If you have any anticipated exam date conflicts due to athletic schedules or religious holidays see an instructor by WEEK 2 of the course to set up a plan for alternate due dates.

### **Statement on Academic Conduct and Support Systems**

**Academic Conduct:**

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” [policy.usc.edu/scampus-part-b](http://policy.usc.edu/scampus-part-b). Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, [policy.usc.edu/scientific-misconduct](http://policy.usc.edu/scientific-misconduct).

## **Support Systems:**

*Student Health Counseling Services - (213) 740-7711 – 24/7 on call*

[engemannshc.usc.edu/counseling](http://engemannshc.usc.edu/counseling)

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

*National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call*

[suicidepreventionlifeline.org](http://suicidepreventionlifeline.org)

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

*Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-4900 – 24/7 on call*

[engemannshc.usc.edu/rsvp](http://engemannshc.usc.edu/rsvp)

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

*Office of Equity and Diversity (OED) | Title IX - (213) 740-5086*

[equity.usc.edu](http://equity.usc.edu), [titleix.usc.edu](http://titleix.usc.edu)

Information about how to get help or help a survivor of harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following protected characteristics: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations.

*Bias Assessment Response and Support - (213) 740-2421*

[studentaffairs.usc.edu/bias-assessment-response-support](http://studentaffairs.usc.edu/bias-assessment-response-support)

Avenue to report incidents of bias, hate crimes, and microaggressions for appropriate investigation and response.

*The Office of Disability Services and Programs - (213) 740-0776*

[dsp.usc.edu](http://dsp.usc.edu)

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.

*USC Support and Advocacy - (213) 821-4710*

[studentaffairs.usc.edu/ssa](http://studentaffairs.usc.edu/ssa)

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

*Diversity at USC - (213) 740-2101*

[diversity.usc.edu](http://diversity.usc.edu)

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

*USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call*

[dps.usc.edu](http://dps.usc.edu), [emergency.usc.edu](http://emergency.usc.edu)

Emergency assistance and avenue 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.

*USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call*

[dps.usc.edu](http://dps.usc.edu)

Non-emergency assistance or information.