Instructors:  
Dr. Dale Kiefer  
11a Tu/Th  
Office Hrs:  
or by appt  
Location:  
AHF M235  
Email:  
kiefer@usc.edu

Dr. Carly Kenkel  
(she/her)  
By Appt  
AHF 231A  
ckenkel@usc.edu

TA:  
Jake Park

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ckenkel@usc.edu

TA:  
Jake Park

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.

<table>
<thead>
<tr>
<th>Date</th>
<th>Lecture</th>
<th>Lecturer</th>
<th>Readings/Assignments</th>
<th>Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 10</td>
<td>1. Course Introduction Anthropogenic Planet</td>
<td>Kiefer</td>
<td>Selections: Stars &amp; Beetles; De Rerum Natura (Lucretius)</td>
<td>No Labs this Week</td>
</tr>
<tr>
<td>Jan 12</td>
<td>2. Discussion of Stars &amp; Beetles article</td>
<td>Kiefer</td>
<td>De Rerum Natura (Lucretius)</td>
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<tr>
<td>Date</td>
<td>Topic</td>
<td>Instructor</td>
<td>Notes</td>
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<tr>
<td>Jan 17</td>
<td>3. Human Evolution</td>
<td>Kiefer</td>
<td></td>
<td></td>
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<tr>
<td>Jan 19</td>
<td>4. Human Evolution: Revolutions</td>
<td>Kiefer</td>
<td>Introduction to Scott’s “Against the Grain”</td>
<td></td>
</tr>
<tr>
<td>Jan 24</td>
<td>5. Population Dynamics &amp; Human Population</td>
<td>Kiefer</td>
<td>ST Pop. Growth: 1, 2, 3</td>
<td></td>
</tr>
<tr>
<td>Jan 31</td>
<td>7. Origins of Life</td>
<td>Kiefer</td>
<td>Lane “Life Ascending”</td>
<td></td>
</tr>
<tr>
<td>Feb 02</td>
<td>8. Ecosystem Structure: Trophodynamics</td>
<td>Kiefer</td>
<td>ST Ecosystem Ecology: 1 &amp; 2 Term paper topic must be approved by Today</td>
<td></td>
</tr>
<tr>
<td>Feb 07</td>
<td>MIDTERM 1 Lec 1-8</td>
<td>Kiefer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb 14</td>
<td>10. Community Structure</td>
<td>Kiefer</td>
<td>ST Community Dynamics 1,2,3</td>
<td></td>
</tr>
<tr>
<td>Feb 23</td>
<td>13. CSI Bisc 102</td>
<td>Kenkel</td>
<td>Atlantic Article and Blog Post</td>
<td></td>
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<tr>
<td>Feb 28</td>
<td>14. Infectious Disease Dynamics</td>
<td>Kenkel</td>
<td>National Geographic Article</td>
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<tr>
<td>Mar 02</td>
<td>15. Biotech &amp; Disease Control</td>
<td>Kenkel</td>
<td>World Economic Forum &amp; Medium Articles</td>
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<tr>
<td>Mar 07</td>
<td>16. COVID: A Case Study</td>
<td>Kenkel</td>
<td>Atlantic Article</td>
<td></td>
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<tr>
<td>Mar 09</td>
<td>MIDTERM 2 Lec 9-16</td>
<td>Kiefer/Kenkel</td>
<td></td>
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<tr>
<td>Mar 14</td>
<td>SPRING BREAK</td>
<td></td>
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<tr>
<td>Mar 21</td>
<td>17. The Selfish Gene 1</td>
<td>Kiefer</td>
<td>Selections: Dawkins The Selfish Gene</td>
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</tr>
<tr>
<td>Mar 28</td>
<td>19. Selfishness vs Cooperation: Saving the Natural World</td>
<td>Kiefer</td>
<td>ST Biogeography 1, 2; Selections from Nowack “Super Cooperators</td>
<td></td>
</tr>
<tr>
<td>Mar 30</td>
<td>20. Feeding the world</td>
<td>Kenkel</td>
<td>National Geographic Article</td>
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<tr>
<td>Apr 04</td>
<td>21. GMOs OMG!</td>
<td>Kenkel</td>
<td>Scientific American Article</td>
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<tr>
<td>Apr 06</td>
<td>22. Invasive Species</td>
<td>Kenkel</td>
<td>Smithsonian Article</td>
<td></td>
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<tr>
<td>Apr 11</td>
<td>23. Biocontrol</td>
<td>Kenkel</td>
<td>Smithsonian Article</td>
<td></td>
</tr>
<tr>
<td>Apr 13</td>
<td>24. Pollution</td>
<td>Kenkel</td>
<td>Clean Cars 4 All</td>
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</tbody>
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### Term Paper Workshops:
- **Workshop 1:** Annotated Bibliographies (Feb 07)
- **Workshop 2:** Outlines (Mar 09)
- **Workshop 3:** Peer Review (Apr 13)

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### Other Notes:
- **Feb 09:** Term paper topic must be approved by Today.
- **Feb 21:** ST Biogeography 1-4.
- **Feb 28:** 5. Term Paper Workshop 1: Annotated Bibliographies.
- **Mar 07:** 4. ST How Diseases Spread 1,2,3.
- **Mar 09:** No Labs this Week.
- **Mar 14/16:** SPRING BREAK.
- **Apr 04:** 10. Presentation of Research Topic PDF due today.
- **Apr 11:** 11. Term Paper Workshop 3: Peer Review.
**BISC 102 Syllabus**  
*Humans and Their Environment, Spring 2023*

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Instructor</th>
<th>Additional Information</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apr 18</td>
<td>25. Water</td>
<td>Kenkel</td>
<td>NY Times Articles; WRI blog</td>
<td></td>
</tr>
<tr>
<td>Apr 20</td>
<td>26. Climate change 1: What do we really know?</td>
<td>Kenkel</td>
<td>IPCC Summary for Policymakers: SPMA Term Papers Due via Turnitin</td>
<td>12. Water Quality Lab</td>
</tr>
<tr>
<td>Apr 25</td>
<td>27. Climate change 2: What does it really mean?</td>
<td>Kenkel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>May 09</td>
<td>MIDTERM 3 Lec 17-28</td>
<td>Kenkel</td>
<td>8-10 a.m.</td>
<td></td>
</tr>
</tbody>
</table>

**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 14th) and an outline for your paper (Due week of March 21st). You will also give and receive peer feedback on your draft papers (week of April 11th). 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 17th.

**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/](https://drcarlykenkel-bisc102.youcanbook.me/).

Students are responsible for logging onto Blackboard ([https://blackboard.usc.edu](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](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.

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

**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. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

Support Systems:

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

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, 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

Non-emergency assistance or information.