**Course Website:** https://ccle.ucla.edu/course/view/171A-EEBIOL100L-1

**Instructors**
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**Schedule:**

<table>
<thead>
<tr>
<th>Date</th>
<th>#</th>
<th>Activity</th>
<th>Work Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 26-27</td>
<td>1</td>
<td>Introduction/Class Overview</td>
<td></td>
</tr>
<tr>
<td>June 28-29</td>
<td>2</td>
<td>Experimental design &amp; execution</td>
<td>Read Langen et al.</td>
</tr>
<tr>
<td>July 5-6</td>
<td>3</td>
<td>Ecology &amp; Behavior Techniques (No class July 3 &amp; 4)</td>
<td></td>
</tr>
<tr>
<td>July 10-11</td>
<td>4</td>
<td>Class Project</td>
<td></td>
</tr>
<tr>
<td>July 12-13</td>
<td>5</td>
<td>Data Analyses &amp; Quiz (meet in Computing Center)</td>
<td>Group Project: Hypothesis &amp; references</td>
</tr>
<tr>
<td>July 17-18</td>
<td>6</td>
<td>Class Project presentation</td>
<td>Group Project: Methods &amp; Statistics</td>
</tr>
<tr>
<td>July 19-20</td>
<td>7</td>
<td>Writing &amp; presenting a scientific project</td>
<td>Group Project: Draft outline</td>
</tr>
<tr>
<td>July 24-25</td>
<td>8</td>
<td>Prospectus presentation &amp; peer review</td>
<td>Group Project: Draft outline return</td>
</tr>
<tr>
<td>July 26-27</td>
<td>9</td>
<td>Work on Group Project: Data collection &amp; analyses</td>
<td>Group Project: Response to comments</td>
</tr>
<tr>
<td>July 31</td>
<td>10</td>
<td>Work on Group Project: Data collection &amp; analyses</td>
<td>Group Project: Response to comments</td>
</tr>
<tr>
<td>Aug 1</td>
<td>11</td>
<td>Presentation of Group Projects</td>
<td>Final Paper (due on 3-4th)</td>
</tr>
</tbody>
</table>

**Reading:**
- There is no textbook, but specific articles may be assigned (and made available on the course website). Failure to come prepared to section will result in a deduction of points from your Participation score.
- You will also need to do outside (unassigned) reading for your research project.
Grading

Participation – 100pts (Attendance is mandatory)

Class Project
- Quiz – 50pts
- Team Presentation – 50pts

Group Project
- Group graded
  - Hypothesis & references – 30pts
  - Methods & Statistics – 40pts
  - Overall Outline – 40pts
  - Response to comments – 40pts
- Potentially Individually graded
  - Final Paper and Presentation – 150pts (The paper must be turned in both in hard copy form and to turnitin.com)

Total: 500pts

**Class Project (3-hr Experiment in the UCLA Botany Gardens!).**

This is a joint student project spread over 3 days of class meetings. On the first day, the class will break into smaller groups that will work with the instructors to propose, design, and carry out a brief experiment on the animals and plants found in the Mildred Mathias Botany Garden. Students will collect data for analyses. On the second day, students will meet in a computing center and will work on inputting and statistically analyzing the collected data. On the third day, each group will give a presentation in class and answer questions on their projects.

**Grading:**

1. Class project quiz (50 pts). Everyone will be given a set of questions that they will be expected to answer to demonstrate their understanding of what they were doing. This is graded individually.
2. Oral presentation (50 pts). Each group briefly presents (about 10 minutes) their project to the class and answers questions. All group members will get the same grade.

**Group Project: Overview.**

The main objective of this course is for students to propose and carry out a research project in groups of 2-3. This will include coming up with an initial idea and hypothesis to test, designing an appropriate experimental protocol, analyzing the data, writing up the results in the form of a scientific paper, and presenting the research to the class.

Within the group project, there are assignments for which everyone will receive an identical group grade. However, for the final paper and presentation there are two (2) grading options. Each group must specify which grading option they want by Aug. 2nd, before the group presents and the final paper is turned in.

Option 1: If all group members agree, everyone will get the same grade (out of 150 points total) – independent of whether or not everyone contributed equally to all aspects of the work.
Option 2: All group members will be individually responsible for only one part of it (i.e., each group member will assume a ‘role’ within their team that they will be individually graded on). There are three (3) possible roles within a team:

1. **Context and conclusion:** The student will be responsible for the Introduction and Discussion sections of the final paper. These sections are important to present the rationale for the study, the hypothesis(es) to be tested, and what the results mean relative to previous published work and in what directions future research might go.

2. **Methods and Results:** The student will be responsible for adequately describing the methods, using the appropriate statistical analyses, and presenting the data clearly and precisely (i.e., tables and figures as needed).

3. **Presentation:** The student will be responsible for writing a clear abstract that properly represents the context and outcome of the group’s work. The student will also give the oral presentation to the class (i.e., the powerpoint or other visual media by which the study is concisely presented to the class). Note that if the group is composed of only two students, it will be expected that they still do a presentation to the class that they will be jointly responsible for.

All students are expected to actively participate in the collection of data for their project. Evidence of such activity will be a large component of the class Participation grade. The group will jointly inform their instructors as to which roles they have decided for each member of the group. The overall project will obviously work the best for everyone if all group members actively help each other with all aspects of the work. Ultimately, however, one can still get an excellent grade even if one participant poorly executes their role (e.g., if the oral presentation is bad, the other team members’ grade on their written work will not be negatively impacted).

**Group Project: Timeline.**

1. **Preparation stage (all group members get the same grade for each section)**
   - **Hypothesis and references.** The group will need to provide: (1) A specific idea to be tested in the form of a hypothesis; (2) A null or alternative hypothesis(es) relative to (1); and (3) At least three citations from peer-reviewed journals that are relevant to the hypothesis being proposed for testing. This will require online literature searches using UCLA Library resources. This due by the 5th class meeting. (30 pts)
   - **Methods and Statistics.** A 1-2 page written description of the methods for the project (including location and anticipated sample sizes), along with the intended appropriate statistical methods for testing the hypotheses. Note, mastery of intricate statistical theory is not expected. We will help guide the group to the appropriate method for the problems. This due by the 6th class meeting. (40 pts)
EEB 100L: Introduction to Ecology and Evolution Lab

- **Draft Outline.** In the form of a written Summary of 200-250 words, a description of hypothesis and the plans for testing it. The group will be expected to also give a brief presentation (no more than 5 minutes) to “sell” their idea to the class. Be prepared to answer questions and receive feedback. This due by the 7th class meeting. *(50 pts)*

- **Response to comments.** After getting TA and peer feedback for the above presentations, it is expected that the group meets with their TA to demonstrate how they plan to deal with criticisms and potential problems that the feedback has revealed. In short, it is expected that they be able to describe what they will now do in the study and what hypothesis(es) are to be tested. This needs to be done in the 8th or 9th class meeting. *(30 pts)*

2. **Execute group project** *(150 total pts for each group member)*

- **Final paper.** Written in the format of a peer-reviewed, journal article. The specific sections of the paper need to be in the following order:
  - Cover page, with the title of the paper and names of all group members. *(Points will be deducted from everyone if no proper cover page is provided!)*
  - Abstract. No more than 250 words to present: the hypothesis; a brief description of methods and results; and the significance of the findings relative to the hypothesis. *(30 pts for Team member #3, if individually graded)*
  - Introduction. This section develops the rationale for the study by putting it into the context of previous work. This will require citing previously published work. The section closes with an explicit description of hypotheses and the relevant null or alternative hypotheses. *(75 pts for Team member #1, if individually graded)*
  - Methods. Describes the experiment in terms of organisms, location, sample sizes, design and/or materials used, and statistics employed. *(75 pts for Team member #2, if individually graded)*
  - Results. Gives the statistical significance of experiment. Tables and/or figures will likely be required to clearly present the actual data. *(75 pts for Team member #2, if individually graded)*
  - Discussion. This section does not recapitulate the results or repeat the introduction. Instead, explain what do the results mean for the hypotheses (i.e., are they supported or rejected?). This section also requires explaining how the findings fit into the context of previous studies, and also what future work might logically follow-up on the findings. *(75 pts for Team member #1, if individually graded)*
  - References. Cited in an appropriate journal format. *(Points will be deducted from everyone for poor citation and inappropriate formatting!)*
EEB 100L: Introduction to Ecology and Evolution Lab

- **Oral presentation. (120 pts for Team member #3).** The presentation should be no more than 12 minutes (Hint: having no more than one slide per minute of allotted time will keep you from being too long!), followed by 4-5 minutes for questions from the audience. The presentation should clearly establish the context for the experiment, briefly touch on methods and statistics without excruciating detail, give the most relevant or interesting results (and not necessarily everything that was found), and finally relate as to whether or not hypotheses were supported or rejected.

**FAQ: Will the grade be curved?**
If the class mean is **below** 75% the cutoff points shown above will be adjusted to compensate. If the class mean is **above** 75% the letter grades will be based on a straight percentage according to the breakdown.

**FAQ: Late Assignments?**
10% of the total points available for the assignment will be deducted for every day the work is late. This includes weekends and holidays.

**FAQ: Dropping the Course?**
Do not wait until the last minute to get signatures. You **cannot** drop after your **Final Paper** has been handed in.

**Cheating, Plagiarism, and Turnitin.com**
- Any student caught cheating or plagiarizing will be given 0 points for that assignment and reported immediately to the Dean’s office.
- Copies of papers from past years are kept on file and we use the document checking service, Turnitin.com.
- Plagiarism will be reviewed in class but you should also read the information provided at the following websites:
  - [http://www.library.ucla.edu/bruinsuccess/](http://www.library.ucla.edu/bruinsuccess/)
  - [http://www.turnitin.com/research_site/e_home.html](http://www.turnitin.com/research_site/e_home.html)
  - [http://owl.english.purdue.edu/handouts/research/r_plagiar.html](http://owl.english.purdue.edu/handouts/research/r_plagiar.html)
  - [http://www.indiana.edu/~wts/pamphlets.shtml](http://www.indiana.edu/~wts/pamphlets.shtml)

**Course Materials**
- Needed material will be placed on the course website
- If you are having enrollment problems but need access to the site before you can be enrolled, go to the **Life Science Computer lab in Hershey Hall** and ask for temporary access. Temporary access is available for the first 2 weeks of the quarter.
- It is important that you have access to the course website as it will also be used to make course announcements.

**STUDENTS WITH DISABILITIES:**
If you require academic adjustments based on a disability, you must register with the Center for Accessible Education (CAE). You can call CAE at (310) 825-1501 or you can go in person to their office at A255 Murphy Hall. When possible, students with disabilities requiring academic adjustments should
contact the CAE within the first two weeks of each term as reasonable notice is needed to coordinate accommodations. For more information visit www.cae.ucla.edu.

As the professionals delegated authority by the campus to determine reasonable academic adjustments, CAE will assess your needs and communicate appropriately with your respective professors and/or Teaching Assistant(s) to inform us of your approved accommodations. In the event that CAE approves you for proctoring arrangements during exams, please inform your respective professors and/or Teaching Assistant(s) at before the date of exam(s).