BIOE 108 Marine Ecology- Tentative Syllabus Summer 2016

Where: Long Marine Lab Center for Ocean Health- Classroom 118  
When: Mon/Wed 9- 11:30  
Instructor: Eva Salas  
Email: esalasde@ucsc.edu  
Office Location: COH 152B  
Teaching Assistant: Angela Quiros  
Email: tquiros@ucsc.edu  
Office Location: COH 150A  
Office Hours: By appointment - don’t hesitate to contact us!  
Class website: eCommons

Class overview:  
The goal of this course is to introduce students to the foundational concepts and theories that shape the way we understand and study populations and communities in marine ecology. Through this understanding, students will learn how to conduct ecological research in coastal marine ecosystems. This course also partially fulfills the Disciplinary Communication requirement. As such, we will not only focus on content but also the important scientific practices of observation, questioning, creating hypotheses, designing experiments, and scientific communication. A lecture style class (where you sit passively and receive information) will not be conducive to learning these skills, therefore, we will use both active and collaborative learning strategies to master course material. You will work individually and with your peers to ask and answer questions, solve problems, brainstorm ideas and synthesize new information. The success of this course and your learning relies on you coming to class prepared, ready to think, and with a positive attitude. We will first discuss the process of doing science, then use classic papers in marine ecology as the framework for understanding the process of doing sound research. Many of the papers presented in lecture are central or seminal papers for paradigms in marine ecology.

Learning Objectives:  
At the end of this class students will use their understanding of concepts in marine ecology to:
  ● Look for, identify and describe patterns in nature.
  ● Develop testable hypotheses to explain observed patterns based on scientific theory.
  ● Design appropriate empirical tests of their predictions to explain observed patterns.

In addition students will develop the ability to:
  ● Read and interpret scientific literature  
  ● Write and present scientifically
**Class Expectations:**
- Class will start and end on time, any late-comers should be non-disruptive
- During class cell phones should be on silent
- It is the responsibility of those who arrive late to get caught up on what they missed.
- Food and drink is allowed in the classroom
- There will be a scheduled 10 min break each class. Individuals can take other breaks if needed as long as they are not disruptive.

**Tentative Schedule:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event/Assignment</th>
<th>Readings</th>
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<tbody>
<tr>
<td>Monday July 25</td>
<td>Course Intro,</td>
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| Wednesday July 27     | Population and Community Ecology                                                  | **Readings:** see ecommons-set of review topic readings assigned to each group member  
 |                       | Philosophy of Science                                                             | **Fill before class:** Reading response form (submit via Google Forms link) |
 |                       | Pre- and Post- Settlement Processes.                                               | **Fill before class:** Reading response form (submit via Google Forms link) |
| Wednesday Aug 3       | *(Intertidal Field Trip- meet 5:45 am)* Intro to Long Marine Lab researchers.     |                                                                         |
|                       | Continue Phil. Science, Stats intro                                              |                                                                         |
| Monday Aug 8          | Hypothesis testing/Experiment design                                              | **Readings:** Connell 1961                                               |
| Wednesday Aug 10      | Intertidal Zonation (continued)                                                   | **Readings:** Hughes 2007, Knowlton 2004, Scheffer et al. 2001            |
| Sunday Aug 14         | Moss Landing Kayak trip.                                                          |                                                                         |
| Monday Aug 15         | Maintenance of Diversity                                                          | **Readings:** TBD                                                        |
| Wednesday Aug 17      | Marine Conservation, Climate Change                                              | **Readings:** TBD                                                        |
| Monday Aug 22         | Final Exam                                                                        | Due date to give poster for printing.                                   |
| Wednesday Aug 24      | Poster Presentations                                                              | **Due:** Final proposal                                                  |
Readings:
All readings will be posted on ecommons. Please read before class. Before class there will questions to think about the readings, answers will be submitted via Google Forms. During class there may be group activities to discuss topics in the paper.

Assignments & Exams:
- Pattern Journal: Guidelines will be discussed during class and posted on eCommons
- Research Proposal: Guidelines and a rubric can be found on eCommons.
- Poster Presentation: Details will be posted on eCommons
- Final Exam: There will be no surprises so if you work hard in class this should be easy and maybe even fun!

Writing Workshops:
Weekly one hour after class (11:30-12:30), writing workshops will be held. These workshops will be used to develop your research proposal and to provide an opportunity for peer evaluation and one-on-one feedback from your instructor. The first 15 minutes will be used to explain tips for writing, editing, proofing. Regular attendance is encouraged and will help as you prepare your research proposal.

Assessment:

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<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Patterns (4) and progress (1)</td>
<td>25%</td>
</tr>
<tr>
<td>Class/Group Participation</td>
<td>15%</td>
</tr>
<tr>
<td>Research Proposal Assignments</td>
<td>20%</td>
</tr>
<tr>
<td>Poster Presentation</td>
<td>20%</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
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Key dates
- Jul 29: Pattern #1 due
- Aug 1: Proposal question due
- Aug 3: Field trip Natural Bridges 5:45-9:45 then class resumes until 11:30
- Aug 5: Pattern #2 and corrections Pattern #1 due
- Aug 8: Pre-proposal due
- Aug 10: Final day to decide poster buddy and paper (please discuss with me earlier)
- Aug 12: Pattern #3 with 1 hypothesis and 1 prediction
- Aug 14: Field trip Kayaking Elkhorn slough
- Aug 17: Proposal draft due
- Aug 19: Pattern #4 with 2 hypothesis, 2 predictions
- Aug 24: Final proposal due, upload in e-commons
- Aug 22: Design and send poster to Eva for printing. If I don’t have by Aug 22, 1 pm, you print it.
- Aug 22: Final exam
- Aug 24: Poster presentation