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
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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 fulfils 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:

Monday July 25 1	Course Intro,	
Wednesday July 27	Population and Community Ecology Philosophy of Science	**Readings**: see ecommons- set of review topic readings assigned to each group member **Fill before class**: Reading response form (submit via Google Forms link)
Monday Aug 1 3	Briefing intertidal field trip: objective/sampling methods Pre- and Post- Settlement Processes.	**Readings**: Grosberg 1982, Wethey 1984, Broitman et al. 2008, Paine 1974 **Fill before class**: Reading response form (submit via Google Forms link)
Wednesday Aug 3 4	***(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 Intertidal Zonation	**Readings**: Connell 1961
Wednesday Aug 10	Intertidal Zonation (continued) Temporal Variation: Community Stability. Life History Processes	**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:

Patterns (4) and progress (1)	25%
Class/Group Participation	15%
Research Proposal Assignments	20%
Poster Presentation	20%
Final Exam	20%

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