

UCLA EEB 165 – MARINE BIOLOGY QUARTER
ECOLOGICAL PHYSIOLOGY OF MARINE VERTEBRATES
COURSE OUTLINE – FALL QUARTER 2008

Professor: Malcolm S. Gordon

TA: Brian Kot

LECTURES AND READING ASSIGNMENTS

All formal lectures will be given during the first two weeks of the course (weeks of 9/29 and 10/6). There will be a total of nine (9) 90-minute lectures, all presented in the Main Lecture Hall. The first will start 9:30 AM, Thursday, 10/2; the second 1:00 PM, Thursday, 10/2; then two at the same times Friday, 10/3. Morning lectures will start 9:30 AM, afternoon lectures 1:00 PM. Second week schedule will be similar; the fifth lecture will start Wednesday, 10/8, 1:00 PM.

There will be an about 1-hour long refresher lecture on relevant statistical concepts and procedures for lab projects, 9:30 AM, Thursday, 10/16.

Lectures and reading assignments will provide the basic physiological information needed to permit carrying out course laboratory projects. Lectures will cover the major topic areas relating to adaptations of marine animals (primarily vertebrates) to four (4) sets of important physical-chemical (abiotic) variables: salinity, temperature, dissolved gases (especially oxygen), and light.

Chapters in the textbook (Willmer, Stone, and Johnston, *Environmental Physiology of Animals*, 2nd edition) that should be read are: 11, 12, 13, 14 (background chapters are 5, 7, 8).

EXAMINATION

There will be a 2 hour-long final examination on lecture and reading materials on Wednesday, 10/15, starting 1:00 PM.

SEMINAR DISCUSSIONS

There will be one 2-hour long evening seminar discussion of relevant recent research papers each week for four (4) weeks. Discussions will take place Thursday evenings, 8-10 PM, starting 10/2 (then 10/9, 10/16, and 10/23); location TBA. Students will work in seven (7) pairs and one group of three (3) and be responsible for summarizing and leading the discussions of specific papers. Each paper will be discussed for about one hour, two (2) papers/week. Papers will be selected from a group of recent relevant research papers for which pdf files will be posted on the course website.

LABORATORY PROJECTS

Five (5) teams of 3 members each and one (1) team of 2 members will carry out six (6) different lab research projects. Preferred projects will relate to one or more of the four (4) course topic areas listed above. It may be possible to develop one or more projects that will serve for both courses (EEB 164, 165). Each group will be responsible for developing a research topic and experimentally testing a hypothesis using both field and laboratory studies. Discussion of possible projects will

begin Monday, 9/29 (part of orientation discussion). Written preliminary proposals will be due Wednesday, 10/8, at afternoon lecture. Final written proposals will be due Friday, 10/10, at afternoon lecture (both electronic and hard copies needed).

Results will be presented in an oral symposium on Thursday, 10/30, beginning 1:00 PM. Final written papers will be due on or before Friday, 10/31, before 5:00 PM.

GRADING

Lecture examination	300 points
Discussions	100 points (participation and presentation)
Project	600 points (200 oral, 350 written, 50 participation)
Total	1000 points