

Invertebrate Zoology
Biology 350 - Spring 2011

Time: Lecture MWF 9:05 – 10:00am, ST 128
Lab T 2:30 - 6:30pm, ST 227

Instructor: Dr. Theresa Sinicrope Talley

Office (during office hours only): ST-477

Office Hours: M, W 10:15-11:30 am, and by appointment

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Required Text: *Invertebrates*. 2nd Edition, 2003 by R. C. Brusca & G. J. Brusca

Course goals:

1. To introduce students to the diversity of invertebrates and their phylogenetic relationships.
2. To demonstrate interrelationships between invertebrate structure, function, physiology and ecology, with an emphasis on adaptations and natural history.
3. To learn concepts of classification and apply them to the identification of invertebrates.

Learning objectives: By the end of the course, students will have learned:

1. How to identify invertebrates and know by sight common taxa of the greater San Diego area, as well as their natural history.
2. To formulate hypotheses about the evolutionary history of organisms based on comparative methods
3. To integrate different types of information (e.g., physiology, structure, behavior) to draw conclusions about the role of an invertebrate in its environment
4. How to observe (identify details or features that can be used to better understand a system or situation)
5. To better communicate science to a group of peers

Course Content: This course will introduce students to the diversity of invertebrates and their phylogenetic relationships. We will focus on comparative morphology, invertebrate systems, ecological adaptations, and evolution of invertebrates beginning with the simpler forms and progressing to the more complex. Lab will emphasize morphology, recognition, classification, and habitats of invertebrates.

Grades:

7 Quizzes @ 20 points each	= 140 points
2 Midterms @ 100 points each	= 200 points
In-class and Homework Assignments	= 100-150 points
Final Exam	= 125 points
3 Lab Practicals @ 50 points each	= 150 points
Lab Notebook	= <u>100 points</u>
Total	= 815-865 points

Quizzes / Exams: Exam and quiz dates are shown on the lecture and lab schedules. There are many short quizzes to help you keep up and remember the large amount of information that we will cover.

Quizzes will be given during the first 20 minutes of lab and will consist of some basic identifications of organisms or features, matching, multiple choice, definition, and short-answer questions. Exams will consist of some quiz-like questions, short answers or essays and will be given during the lecture portion of the class. Lab practicals will mostly consist of identifications of organisms and/or important features and will be conducted in lab.

There will be **no make-up quizzes, exams or practicals**, so plan accordingly. Exceptions will be considered only if arrangements are made with me *before* the exam or if you have a doctor's note which contains a phone number for verification purposes.

Attendance: You are expected to attend every class and be on time. You will be responsible for material presented in the textbook readings, handouts, videos, activities, lectures, and discussions. If you are absent, it is your responsibility to keep up with what you missed—download any handouts or notes from WebCT, and obtain supplemental notes and updates on what you missed from fellow students.

Suggestions: The course will follow your text very closely. Hence, two main themes will recur: animal bauplan (functional design) and animal phylogeny (evolutionary history). A detailed overview of these themes is given in Chapters 1-4. **READ THESE CHAPTERS CAREFULLY AND REFER TO THEM WHENEVER NECESSARY.**

In this course you will need to go beyond memorizing basic facts. We will integrate basic biological knowledge of invertebrates with their ecology and natural history. This will help us to understand their behavior and place in world ecosystems.

There will be a great deal of material to assimilate. The amount of information will build up quickly as we progress through the diversity of invertebrate phyla. The text is fairly comprehensive and should be used to complement lectures and provide more detailed explanations. You must be prepared to learn and understand many new terms and concepts, and to discover many new groups of animals. The field of invertebrate zoology is so vast that we will only scratch the surface. Attending lectures and careful reading of your text are essential to your success in this course.

If you do not understand something, ask questions. If you need additional help please e-mail me or see me during office hours. If you cannot come during my office hours, don't hesitate to contact me to set up another appointment time.

Welcome to Invertebrate Zoology!

LECTURE SCHEDULE

<u>Date</u>	<u>Topic</u>	<u>Assigned Reading</u> <u>(Chapter / Pages)</u>
<u>Jan</u>		
24	Course Overview; Introduction to Invertebrates	1
26	Introduction to Invertebrates, Bauplan Concept	1 3 (41-43)
28	Animal Bauplan: Body Symmetry, Germ Layers & Body Cavities	3(43-49)
31	Animal Bauplan: Locomotion & Support,	3(49-56)

<u>Date</u>	<u>Topic</u>	<u>Assigned Reading (Chapter / Pages)</u>
May		
2	Phylum Echinodermata I	22
4	Phylum Echinodermata II	22
6	Presentation of Science & Art project	22
9	Catch up / Review	--
18	Final Exam (08:00-10:00)	

Invertebrate Zoology Lab Schedule Spring 2011

Jan 25	Lab Safety; Classification & Phylogeny
Feb 1	Quiz 1 Protista
Feb 8	Quiz 2 Origins of Metazoa; Fossils
Feb 15	Open Coast Intertidal Field Trip
Feb 22	Quiz 3 Porifera
Mar 1	Quiz 4 Cnidaria
Mar 8	Lab Practical 1 Platyhelminthes, Blastocoelomates, et al.
Mar 15	NO LAB – SPRING BREAK
Mar 22	Annelida
Mar 29	Quiz 5 Arthropoda
April 5	Freshwater Field Trip
April 12	Lab Practical 2 Mollusca
April 19	Quiz 6 Echinodermata
April 26	Quiz 7 Coastal Canyon Field Trip
May 3	Lab Practical 3 Mussel Bed & Kelp Holdfast Fauna

***Note:** Lab schedule is subject to change!