Invertebrate Zoology (BI 410/510)
Spring 2005

Meeting times: Mon & Wed 9-10:50 am, Friday 9-11:50, Room 232 SB2
Field trips:
   22 April –8:45 – 12 pm. Field trip to Columbia River Gorge/Sandy River
   13 May – 8:45 – 3 pm. Field trip to Catherine Creek, WA
   27 May – 7:00 – 3 pm. Field trip to Oregon coast

Instructor: Susan Masta, email smasta@pdx.edu
Office hours: Mon 12-1, Wed 11-12, Room 103M SB1, 725-8505

Course Description: In this course you will become familiar with some of the tremendous diversity present in invertebrates. In addition to taxonomic diversity, we will explore the vast differences among invertebrate anatomies, feeding and reproductive behaviors, lifestyles, sexual systems, and physiologies. Throughout the course, we will use an evolutionary perspective to examine traits as varied as parasitic lifestyles, venoms, silk production, dispersal ability, and eyes. The Friday labs and field trips are integral components of the course, where you will have the opportunity to observe both living and preserved specimens. WebCT will be used for posting some assignments and readings, so you must have an active Odin account at PSU to access this.

Grading: 5 quizzes (25%); final exam (15%); lab assignments and notebooks (20%); class assignments and presentations (25%); term project report (10%); term project presentation (5%).

Tentative Schedule:
28 March – What is an Invertebrate?: Diversity, Evolution, and Phylogenetics (Ch. 2, pp 14-29)

30 March – Phylogenetics / Evolution of Flight

1 April – Arthropods: The Hexapods 1. Lab: Hexapod Diversity I (Ch. 14)

4 April – Arthropods: The Hexapods 2. Lab: Insect Diversity II (Ch. 14)

6 April – Hymenoptera / Silk / Arthropods: The Arachnids (spiders) (Ch. 14)

8 April – Arthropods: Arachnid diversity (Ch. 14) Arachnid Lab

11 April – Venoms / Arthropods: Myriapods (Ch. 14). Student Presentations: venoms.

13 April – Arthropods: Crustaceans

15 April – QUIZ 1: Hexapods and Arachnids Crustacean and Myriapod Lab

18 April – Pycnogonids and Merostomata (Ch. 14); Tardigrades and Onycophorans (Ch.15). Pycnogonid and Tardigrade Lab
20 April – On Being Small / Rotifers (Ch. 10); Gastrotrichs (pp. 447-449)

22 April – (8:45-12) (Earth Day) Field trip to Columbia River Gorge Scenic area.

25 April – QUIZ 2: Crustaceans through Rotifers. Parasitic Lifestyles / Platyhelminthes (Ch. 8)

27 April – Live Fast, Die Young / Nematodes (Ch. 16)
28 April – 12 - 1 pm Room 232 SB2. Seminar by Dr. Philip Brownell from OSU on Scorpion Biology

29 April – Parasite Lab; Student Presentations: parasitic lifestyles.

2 May – QUIZ 3: Platyhelminthes and Nematodes Developmental Patterns / (Ch. 2, pp 5-15)

4 May – Porifera and Cnidarians (Chs. 4 & 6).

6 May – Ctenophores (Ch. 7) / Porifera and Cnidarian lab.

9 May – Sexual Systems / Annelid video

11 May – Annelids (Ch. 13) / Student Presentations: sexual systems & finding a mate.

13 May – (8:45 – 3 pm) Class field trip to Catherine Creek.

16 May – QUIZ 4: Annelids and other phyla Molluscs (Ch. 12) Lecture by Dr. Leonard Simpson

18 May – Evolution of Eyes / Molluscs (Ch. 12)

20 May – Mollusc Lab. Student Presentations: eyes.

23 May – QUIZ 5: Molluscs, Eyes Getting Around / Echinoderms (Ch. 20) Term project due

25 May – Echinoderms 2/ Student Presentations: getting around. Lab Notebooks due

27 May – (7:00 am – 3 pm) Field trip to Oregon coast tidepools.

30 May – PSU closed – Memorial Day

1 June – Nemertean / Phylogenetics and Systematics – Putting it all together Project Critiques due

3 June – Final Exam (lab and lecture). Last day of classes

7 June – (8:00-9:50 am) Presentation of term projects (posters)