

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

Textbook: “Biology of the Invertebrates” by Jan Pechenik, 5th edition, 2005 (required)

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 Onychophorans (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)