

BI 451/551 INVERTEBRATE ZOOLOGY SYLLABUS

Summer 2016, Monday-Wednesday-Friday

Instructor: Patrick Baker, pkbaker@ufl.edu

Teaching Assistant:

Course Materials: There is no required text. Recommended texts include the following:
Brusca et al. 2016. *Invertebrates*. 3rd Ed. Sinauer Associates. ISBN 978-1605353753
or Ruppert et al. 2004. *Invertebrate Zoology*. 7th Ed. Brooks/Cole. ISBN 0-03-025982-7
and Kozloff. 1983. *Seashore Life of the Northern Pacific Coast*, Univ. Washington Press,
ISBN 0295960841
and Nybakken, 1995. *Diversity of The Invertebrates: A Laboratory Manual Pacific Coast
Version*. William C Brown Pub. ISBN 0697151204

There are required notebook materials, including:

Drawing supplies: (e.g. Strathmore 400 or 500 series, or Blick 60- or 80-weight). If the paper is loose, provide a binder as well. Number 2 HB pencils are acceptable, but you may care for a range of harder and softer pencils. Colored pencils are optional.

Field notebook: 5x7" (actual dimensions may vary) waterproof field notebook, plus pencil or oil-based ink pens.

A basic standard dissection kit is required, including probe, scissors, and scalpel. There is also required footwear, rubber boots or neoprene shoes; see below in **Field Trips and Attendance** for more information.

Course Schedule: The following schedule is subject to change as required. Field trips will be arranged as the course progresses.

June 25-29: Introduction, Annelids

July 2-6: Mollusks - **no class Wednesday, Lab quiz Friday**

July 9-13: Mollusks, Arthropods - **All notebooks due Friday**

July 16-20: Arthropods - **Midterm Friday**

July 23-27: Echinoderms

July 30-August 3: Cnidarians - **Lab quiz Friday**

August 6-10: Minor Phyla

August 13-17: Sponges - **Final Lab Exam on Wednesday pm**

All Notebooks Due on Wednesday pm

Final Exam on Friday

Undergraduate Scoring: Grading for undergraduate students is broken down as follows.

Lab Quiz 1	4%	
Field Notebook check	1%	<u>Grades</u>
Lab Notebook check	1%	97% = A+
Midterm*	15%	93% = A
Lab Quiz 2	4%	90% = A-
Field Trip Attendance	7%	87% = B+
Final Lab Exam	10%	83% = B
Field Notebook	3%	80% = B-
Lab Notebook	30%	etc.
Final Exam	25%	

*Material from this syllabus may appear in the midterm exam.

Tests: Lab quizzes will focus on specimen identification, anatomy, and habitat. The midterm and final exams will focus on lecture material. The final exam is not comprehensive except for material specifically covered in the midterm exam; any material in the midterm may be used again, possibly re-worded or combined with other questions.

Field Notebooks: Waterproof notebooks will be taken into the field on every trip. Students will note date and time, environmental conditions, and make relevant field observations. The purpose of the field notebook is to develop observational habits, and you will be graded on your effort. Legibility is also important.

Lab Notebooks: Drawing paper will be used to make 1-3 detailed drawings every day we have lab. As with field notebooks, the purpose is to sharpen your observational skills. Use graphite pencils only for the drawing; colored pencils may be used sparingly only *after* the drawing is made to add useful color details. Artistic skill is not needed, but lack of artistic skill is no excuse for careless drawings. You will be graded on effort more than precision. All drawings should be accompanied by the following information:

- Taxonomy: phylum & other useful taxonomic levels, plus genus & species, if known.
- Habitat from which the specimen was collected, if known. If it is from a collection or culture, note that.
- Scale (e.g. life-size, $\frac{1}{4}$ life size, or provide the microscope magnification). In some instances, a scale bar may be appropriate.
- Specimen preparation. Is it live, anesthetized, or dead? How was it anesthetized or killed? Is it fresh or preserved? How was it preserved? Is it dissected?
- Specimen orientation. What side are you drawing? Right? Dorsal?
- Label everything you can see. Use lab guides or other texts for information, but do not copy those guides in your drawings.

Field Trips and Attendance: You need rubber boots or neoprene shoes and clothes that can get dirty. Bare feet or open-toed footwear will not be permitted in most field sites. There may be rain and early morning field trips will be chilly. Many sites will involve rugged terrain so, if you have any physical limitations, inform the instructor in advance. There will be one or more trips in a boat and some field sites involve long trips on winding roads, and motion sickness is possible.

Some field trips will begin very early to take advantage of morning tides. Regular attendance and full participation will ensure full credit. Missing more than one field trip without a prior excuse will count against your score, as will lack of full participation in the field. Wet clothes, mud, and slime are not dangerous, and you will be expected to get wet and handle organisms.

Safety: Safety will be discussed for lab and field situations where appropriate. Egregious violations will be reflected in the field grade; repeat violations that endanger yourself or others will result in you being asked to leave the course.

Academic Integrity: Please refer to the University of Oregon website:

<http://uodos.uoregon.edu/StudentConductandCommunityStandards/StudentConductCode/tabid/69/Default.aspx>

Graduate Credit Scoring: For students taking this course for graduate credit, the points outlined above will be prorated to 80% of the total grade, and the remaining 20% will be based upon a special project, which will be discussed in advance with the instructor. This project will involve the following parts: observations, hypothesis, experimental design, project proposal (plan of work), data collection, data analysis & hypothesis testing, and project report. The latter will be written as a scientific manuscript in a standard format with appropriate references. The project proposal, which is due by the third Monday of the course, will not be graded but is required for project approval.

TIDES and TENTATIVE FIELD TRIP SCHEDULE – subject to change

Mon, June 25 – low tide too early

Wed, June 27 – low tide **-1.0 at 6:40 am, Cape Arago** – **5:30 am breakfast, van at 6:00 am**

Fri, June 29 – low tide **-1.1 at 7:51 am, Metcalf** – regular breakfast, van at 7:30 am

Mon, July 2 – low tide **-0.5 at 9:36 am** – field trip

Wed, July 4 – **NO CLASS**

Fri - July 6 – low tide +1.3 at 12:42 pm

Mon, July 9 – low tide 2.4 at 3:16 pm

Wed, July 11 – low tide **-1.6 at 5:29 am** – field trip?

Fri, July 13 – low tide **-2.5 at 7:05 am** - **5:30 am breakfast, van at 6:00 am**

Mon, July 16 – low tide **-1.7 at 9:25 am** – regular breakfast, van at 8:00 am

Wed, July 18 – low tide **-0.2 at 11:01 am** – field trip TBA

Fri, July 20 – low tide +1.5 at 12:47 pm

Mon, July 23 – low tide **-+2.9 at 3:47 am**

Wed, July 25 – low tide **-0.6 at 5:42 am**

Fri, July 27 – low tide **-0.8 at 6:55 am** - field trip TBA

Mon, July 30 – low tide **-0.6 at 8:33 am** - field trip TBA

Wed, August 1 – low tide **-0.1 at 9:38 am** – regular breakfast, van at 8:00 am

Fri, August 3 – low tide +1.2 at 10:51 am

Mon, August 6 – low tide +2.7 at 1.41 pm – field trip TBA

Wed, August 8 – low tide +2.6 at 4:00 pm

Fri, August 10 – low tide **-1.9 at 6:00 am**

Mon, August 13 – low tide **-1.6 at 8:16 am** - field trip TBA

Wed, August 15 - **NOTEBOOKS DUE**

Fri, August 17 - **FINAL EXAM**