

## Invertebrate Biodiversity ZOO4205C Spring 2019

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**Course Times:** Tuesday & Thursday, 10:40 AM - 12:35 PM in Bartram 211

**Labs:**

Tuesday	3:00-6:00	Carr 120
Tuesday	6:15-9:15	Carr 120
Wednesday	9:35-12:35	Carr 120
Wednesday	1:55-4:55	Carr 120

**Course Materials:** There is no required text. Recommended texts include the following:

Brusca et al. 2016. *Invertebrates*. 3rd Ed. Sinauer Associates. ISBN 978-1605353753

**and** Ruppert and Fox. 1983. *Seashore Animals of the Southeast*, Univ. South Carolina Press, ISBN 0872495353

**and** Nybakken, 1995. *Diversity of The Invertebrates: A Gulf of Mexico Version*.

William C Brown Pub. ISBN 0697151239

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, disposable shoes, or neoprene shoes; see below in **Field Trips and Attendance** for more information.

**Grade Scoring:** Grading for is broken down as follows.

Quiz 1	5%	<u>Grades</u>
Lab Notebook check	2%	93% = A
Midterm	15%	90% = A-
Quiz 2	5%	87% = B+
Field Trip Attendance	8%	83% = B
Lab Exam	10%	80% = B-
Field Notebook	5%	77% = C+
Lab Notebook	25%	73% = C
Final Exam	30%	70% = C-

**Lectures:** I will be using a mixture of prepared PowerPoint slides and white-board material. If the students want, I can post copies of the lectures to Canvas, but they will be insufficient to prepare for exams, as diagrams will not be included.

**Tests:** The quizzes, midterm and final exams will focus on lecture material and assigned readings. If material is not in specified passages of assigned reading, on a PowerPoint slide, or written on the white-board, it won't show up on a quiz or exam except as extra credit. The final exam is not comprehensive except for material specifically covered in the midterm exam or quizzes; any material in the midterm or quizzes may be used again, possibly re-worded or combined with other questions. Any of the contents of this syllabus may be used in a quiz or exam, and the answer to Did you Read the Syllabus Secret Question is "one louder."

The lab exam will revisit specimens we looked at earlier during labs, and you will be asked to provide information such as taxonomic information, anatomical features, habitat, and possibly key ecological functions.

**Lab Attendance:** Attendance at labs will not be taken, but please note that the lab notebook is worth 27% of your grade (including the lab notebook check). If you leave early without completing your drawings, with the intention of finishing it later or at home, your grade will likely suffer.

**Lab Notebooks:** Drawing paper will be used to make at least ten detailed studies (one large drawing or several related drawings) over the duration of the course. 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.

**Lab Notebooks** (continued): Photographs are not an acceptable substitute for drawings, because they don't help you observe the specimen. Do not include them in a notebook; they will be rejected. You may, however, take a photograph to help you draw the specimen, although the common student practice of taking a photo in the lab and going home to draw it results in poorer drawings.

**Field Notebooks:** Waterproof notebooks will be taken into the field on every trip. Take notes that will then be used to write a short essay (250-500 words), using formal sentence structure, describing the trip. Relevant information include time & date, location, a description of the field site, climate and tide conditions if relevant, observations of invertebrates, sampling methods, species collected or observed, and relevant ecological information. The purpose of the field notebook is to develop observational habits, and you will be graded on your effort. Legibility is also important.

**Field Trips and Attendance:**

The field trip schedule is highly tentative. Each student is required to attend two field trips, although more are permitted with availability. Please keep your Saturdays flexible.

You need rubber boots, neoprene shoes, or disposable shoes with enclosed toes, 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 some field trips will be chilly, although we will not go out if there are thunderstorms. Some sites involves long drives (up to 2 hours) in a van.

Students are permitted to drive themselves (but not each other) to the FAS (Fisheries and Aquatic Sciences) satellite campus.

Damp 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.

**Proposed Schedule: Classes and Labs**

January 8-10 – Introduction, Porifera  
no labs

January 15-17 – Cnidaria  
Lab: technical drawing

January 22-24 – Flatworms & minor phyla  
Lab: intro to microscopes, Cnidaria

January 29-31 – Nemertea & Annelids, **Quiz 1**  
Lab: Worms

February 5-7 – Annelids  
Lab: Worms

February 12-14 – Annelids, Mollusks  
Lab: Mollusks

February 19-21 – Mollusks  
Lab: Mollusks

February 26 - Mollusks, **Midterm Exam**  
Lab: Cephalopods, **Lab Notebook Check**

March 5-7 – no class, spring break

March 12-14 – Lophophorates  
Lab: Bryozoans & Brachiopods

March 19-21 – Nematodes, Arthropods  
Lab: Nematodes, Chelicerates

March 26-28 – Insects, **Quiz 2**  
Lab: Insects

April 2-4 – Crustaceans  
Lab: Crustaceans

April 9-11 – Echinoderms  
Lab: Echinoderms

April 16-18 – Echinoderms, Chordates  
Lab: **Lab Exam**

May 2 – **Final Exam, 12:30 to 2:30**

**Field Trips**

no field trip

January 19  
FAS Ponds

January 26  
Cedar Key (0.1 at 11:42 am)

no field trip

February 9  
FAS ponds back-up date

February 16  
Matanzas Inlet (-.1 at 2:46 pm)

February 23  
Cedar Key (0.1 at 10:32 am)

no field trip

March 16  
Matanzas Inlet (0 at 2:22 pm)

March 23  
FAS ponds back-up date

March 30  
FAS ponds back-up date

April 6  
FAS ponds back-up date

April 13  
Matanzas Inlet (-.1 at 12:59 pm)

no field trip

**UNIVERSITY OF FLORIDA POLICIES:**

**UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES:** Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

**UNIVERSITY POLICY ON ACADEMIC MISCONDUCT:** Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at <http://www.dso.ufl.edu/students.php>.