Invertebrate Zoology (BI451/551, 8 credits)
Tuesdays and Thursdays (8:30 am - 5:30 pm)
Earlier than 8:30 am on many morning field trips

Spring Quarter 2022
Instructors:
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TA: Kendall Smith (ksmith35@uoregon.edu)

This class is an 8 hour/day, two day/week course. In general, each day we will have two lectures, lab activities and/or field work.

Daily Class Schedule

Week 1 (low tides)

3/29	**17:21**	**-0.3ft low**
MW	08:30	Introduction to class (Boathouse auditorium)
MW	09:00	Lecture: Phylum Cnidaria Intro. and Anthozoa (Ch. 6, pg. 99-103)
	11:00	Set up Scopes
	12:00	lunch
	13:15	Lab: Anthozoan anatomy and diversity
	15:30	Field Trip to South Side of Sunset Bay to get hydroids
3/31	**06:25**	**+0.86ft low**
MW	8:30	Lecture: Class Hydrozoa
	10:00	Lab: Hydrozoan diversity
	12:00	lunch
MW	13:15	Lecture: Classes Scyphozoa, Cubozoa & Staurozoa
	14:15	Lab: Medusae – Hydrozoans and Scyphozoans

Week 2

4/5	**09:44**	**+0.2ft**
	08:00	Field Trip to Sunset Bay
MW	10:30	Lecture: Phylum Porifera (Ch. 4, pg. 77-88)
	11:30	Lab: Start Phylum Porifera
	12:00	lunch
	13:15	Lab: Finish Phylum Porifera
MW	15:00	Lecture Phylum Ctenophora (Ch. 7, pg. 135-146)
	15:30	Lab: Ctenophores (if we have them)

4/7 11:19 +0.8ft low

MW 08:30 Lecture: Phylum Platyhelminthes (Turbellarians) (Ch. 8, pg. 147-177)
MW 10:00 Lecture: Platyhelminthes (Parasitic Classes)
12:00 lunch
13:15 Lab: Platyhelminthes Lab (Turbellarians) and finish other labs

end of day:
Turn in Lab Notebooks

Week 3

4/12 16:16 +0.7ft

CE 08:30 Lecture: Nemertea (Ch. 11, pg. 205-214)
10:30 Lab: Nemertea
12:00 lunch
13:15 Lab: Nemertea (cont'd)
16:00 Midterm I - Review Session

4/14 17:32 +0.6ft

8:30 **Midterm I (Cnidaria, Porifera, Ctenophora, Platyhelminthes, Nemertea)**
MW 13:15 Lecture: Phylum Annelida I – intro (Ch. 13, pg. 295-339)
14:30 Lab: Annelida Dissection

Week 4

4/19 08:53 -1.3ft.

07:30 Field Trip to Portside Mudflat
MW 10:30 Lecture: Annelida II
MW 13:15 Lecture: Annelida III
14:30 Lab: Annelida Diversity and Identification

4/21 10:40 -0.9ft.

NT 8:30 Lecture: "Phylum" Sipunculida (Ch. 13, pg. 314-318)
9:30 **Field Trip to Middle Cove**
12:00 Lunch
13:15 Laboratory – Sipunculids – peanut worms
NT 15:30 Lecture: Phylum Mollusca Intro + Class Polyplacophora (Ch. 12, pg. 215-293)

Week 5

4/26 16:01 +0.37ft.

NT 8:30 Lecture: Class Gastropoda
10:15 Lab: Gastropod and Chiton Diversity
12:00 Lunch
NT 13:15 Lecture: Mollusca, Class Cephalopoda
14:30 Lab: Squid Dissection

4/28 05:29 +0.6

NT	8:30	Lecture: Mollusca, Bivalvia
	9:30	Lab: Bivalve Diversity (shells) etc
	12:00	Lunch
KS	13:15	ODFW/Fisheries/Policy - Mollusca
	14:30	Student lab catchup

Week 6

5/4 08:38 -0.6ft.

	7: 00	**Field Trip Domehouse Mudflats**
	10:30	Lab: Bivalve Dissection, Behavior
	12:00	Lunch
NT	13:15	Lecture: Phylum Echinodermata Intro. + Stelleroidea (Ch. 20, pg. 497-527)
	15:00	Laboratory: Asteroids

5/6 09:57 -0.1ft.

NN	8:30	Lecture: Echinodermata, Classes: Ophiuroidea
	10:00	Laboratory: Ophiuroid Diversity
	12:00	lunch
NT	13:15	Lecture: Echinodermata, Classes Echinoidea & Holothuroidea
	14:30	Lab: Echinoidea and Holothuroidea Diversity

Week 7

5/9 18:30 Midterm II Review Session

5/10 14:27 +0.9 ft

	8:30	**Midterm II (annelids, molluscs, echinoderms)**
	12:00	lunch
MW	13:15	Lecture: Phylum Arthropoda + Chelicerata (Ch. 14, pg.341-420)
	14:30	Notebook Catch-up
	(Ask TA to catch some large crab for us)	

5/12 16:02 +1.2ft

	8:30	Lab Notebooks II due (annelids, molluscs, echinoderms)
NT	8:30	Lecture: Arthropoda, Intro to Crustacea
	10:30	Lab: Arthropoda Diversity: (Classes Copepoda, Ostracoda, Cirripedia)
	12:00	lunch
	13:15	Lab: Arthropoda Diversity (cont'd)

Week 8

5/17 07:51 -2.2ft.

	06:00	Field Trip to Qochyax Island
MW	9:30	Lecture: Arthropoda - Malacostracans + Decapods

10:30 Lab: Malacostracan Diversity
12:00 lunch
13:15 Lab: Malacostracan Diversity cont'd

5/19 09:32 -2.0ft.
07:30 Field Trip to Lighthouse Island
10:30 Lab: Crab Dissection
12:00 Lunch
13:15 Lab: Crab Dissection (cont'd) & Lab Notebook catch-up

Week 9

5/24 14:26 +0.6ft. (Boat Trip option #1)
MW 08:30 Lecture: "Lophophorates" Intro. and Bryozoa (Ch. 19, pg. 474-491)
10:00 Lab: Bryozoa
12:00 lunch
MW 13:15 Lecture (Brief): Phoronida and Brachiopoda
14:15 Lab (Brief): Phononida and Brachiopoda

5/26 16:07 +1.6ft. (Boat Trip Day Alternative)
NT 08:30 Lecture: Phylum Chordata, Subphylum Tunicata (Ch. 23, pg. 539-548)
10:00 Lab: Ascidian diversity
12:00 lunch
NT 13:15 Lecture: Hemichrodata
14:00 Lab: Ascidians/Hemichordata if avaliable

Week 10

5/31 07:41 -1.1ft
06:00 Field Trip Cape Blanco : Team Phylum Hunt
11:00 Prepare Team Report
12:00 Lunch
13:00 Prepare Team Report cont.
14:00 Team Reports on Phylum Hunt

6/2 08:54 -0.8ft.
7:00 Fieldtrip TBA
NT 10:00 Lecture: Phylum Nematoda and Obscure Phyla (Ch. 16, pg. 432-450)
12:00 Lunch
13:15 Notebook Catch-Up
18:00 Notebooks due

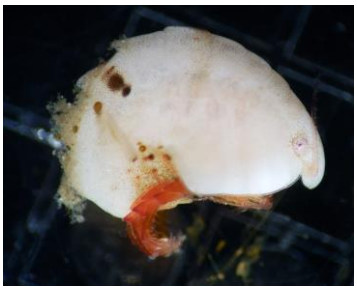
Finals Week (Week 11)

6/6 18:30 Midterm Review Session

6/7 8:30 Midterm III am (Arthropods, Lophophorates, Tunicata, Chordata, Nematoda, Obscure Phyla)

12:00 Lunch

13:15 Lab Cleanup pm



Syllabus for INVERTEBRATE ZOOLOGY (BI 451/551, 8 credits), Spring 2022

COURSE GOALS/LEARNING OUTCOMES The student will:

1. Use marine invertebrates as models to understand biological processes
2. Develop an understanding of the unifying features across organisms
3. Compare and contrast the morphological, physiological and ecological diversity of invertebrates between and within phyla
4. Evaluate relationships between structure and function by examining how organisms accomplish activities such as locomotion, feeding, growth, respiration, excretion and reproduction.
5. Develop a working knowledge of northeastern Pacific marine invertebrates in field.

Required Textbook = J.A. Pechenik. 2015. Biology of the Invertebrates, 7th edition. McGraw-Hill Publisher.

You will have access to the lab 24/7, except Mondays! We will be in the lab Tuesdays and Thursdays and likely on other occasions as well. You are welcome to contact us by email to set up a time for questions, concerns, and assistance (Nancy in the lab Wednesdays, and Kendall in Galloway lab and Maya in library, Monday/Wednesdays). There are frequent field trips to local habitats, often starting early in the morning depending on the tides. Please dress in layers, knee-high water proof boots, with pockets for your field notebook.

Course Requirements and Evaluations:

Your final grade will be determined by a combination of three midterm exams, your laboratory notebook, and a field exercise. Material covered on midterms will include lectures, lab materials, and assigned reading. Attendance is required on all field trips, in all laboratory sessions, for all lectures and for student presentations (if applicable).

Notebooks – 45% (3 evaluations, Only 1st one can be modified for a re-grade)
Midterms – 45% (3 midterms at 15, 15 and 15% respectively)
Team Phylum Presentation – 5%
Participation – 5%

You need to have:

1) textbook (specifics above)
2) A lecture notebook
3) A separate lab notebook – loose leaf notebook with unlined paper in 3-ring binder.
4) Rite-n-Rain notebook for field notes (in office)
5) Dissecting tools – forceps, scissors, scalpel, disposable blades, probe, plastic ruler
6) Memory stick
7) Full raingear and rubber boots (suggested: Hat)

8) Suggested: color pencils, water-proof camera or phone

Lab Notebook – (a separate loose-leaf notebook with white, unlined paper)

There is no formal lab manual. Typically there are lab handouts for guidance through a lab activity (e.g. helpful diagrams for dissections, recommendations for organisms to look at). You will draw a variety of organisms for most taxonomic groups and combine these with notes on any activities.

Your lab notebook should include:

1. Drawings, descriptions, and notes on observations of animals you examine in lab
2. Accurate labeling of anatomy of live and dissected animals
3. Classification for each animal (starting with Phylum and working down to Genus and species- all accurately spelled)
4. Some indication of size scale for each drawing (size of the field of view or a scale bar of approximate length)
5. Notes on lab exercises
6. Field information for the organisms you describe (e.g. habitat, ecological associations etc.)

Kendall Smith's lab notebooks are on display in the back of the lab as an "A" notebooks. But note, artistic ability is not graded, just thoroughness!

The notebook will be graded on:

1. Completeness of coverage of animals included in lab exercises (a representative number for each taxonomic group available in lab)

2. Description of organism/correct anatomical labeling

3. Classification and scale for each specimen drawn

4. Observations (e.g. ecology, habitat collected from, lifecycle, if pertinent)