

11:216:324–Invertebrate Zoology Fall Lecture: MTH 10:55 –12:15, RAB-206. Lab: TH 12:35–3:30 or 3:55-6:55, BIO-101.

INSTRUCTOR

Dr. Kimberly Russell (russell@aesop.rutgers.edu)

Phone: 2-9383, DEENR 124 (Natural Resources Building, back behind the greenhouses, near the horses)

Office Hours: M 1-2:30pm; W 10-11:30am or by appointment

Teaching Assistant: Nick Pollock (nbp48@scarletmail.rutgers.edu)

Office hours by apptment.

COURSE MATERIALS

Text: Biology of the Invertebrates, by Jan A. Pechenik, 7th Edition (2014). McGraw-Hill Education. ISBN-10: 0073524182, ISBN-13: 978-0073524184.

Lab: Lab materials will be posted on the course website. Students are responsible for downloading, printing and bringing to class. Please purchase a three ring binder to hold lab materials.

COURSE DESCRIPTION

Invertebrates make up 99% of all animal life on our planet with over 2 million described species dispersed among 33 phyla. In some ways, it is INSANE to attempt to discuss the diversity of these creatures in a single semester. Instead, we can place these organisms into an evolutionary history that highlights the differences and similarities between groups. The goal of this course is both to introduce you to the diversity of life on this planet and to give you an appreciation of the utility, beauty and relevance of these fantastic creatures.

COURSE LEARNING GOALS

- Demonstrate an understanding of the fundamental differences among invertebrate taxa, and the relationships among taxa.
- Demonstrate knowledge of basic phylogenetic principles.
- Demonstrate the ability to make careful observations of specimens.
- Demonstrate the ability to identify organisms based on morphology.
- Gain an appreciation for the diversity of animals (& enjoy yourself at the same time).

Tentative Lecture and Lab Schedule

	WEEK #1	
Sept 3	Introduction: Amazing Invertebrates (Ch. 1)	Lab 1: Terrestrial Diversity
	WEEK #2	
Sept 8	Evolution Review & Invertebrate Classification (Ch. 2)	
Sept 10	Fossils, DNA & the Tree of Life (Ch. 2 cont'd)	Lab 2: Stream Beasts
	WEEK #3	
Sept 14	The Protists (Ch. 3)	
Sept 17	The Poriforans & Placozoans (Ch. 4)	Lab 3: Pond Water Fun
	WEEK #4	
Sept 21	The Hydrostatic Skeleton (Ch. 5) Quiz 1	
Sept 24	The Cnidarians cont'd (Ch. 6)	Lab 4 : Porifera, Cnidaria & Ctenophora
	WEEK #5	
Sept. 28	The Ctenophores & (Ch. 7)	
Oct 1	The Platyhelminths (Ch. 8)	Exam 1
	WEEK #6	
Oct 5	The Mesozonas (Ch. 9)	
Oct 8	The Gnathifera (Ch. 10)	Lab 5: Parasitology
	WEEK #7	
Oct 12	More on Rotifers! (Ch. 10 cont'd)	
Oct 15	The Nemertean (Ch. 11)	Lab 6: Crayfish Behavior
	WEEK #8	
Oct 19	The Molluscs (Ch. 12)	
Oct 22	The Annelids (Ch. 13)	Lab 7: Mollusca Comparative Anatomy
	WEEK #9	
Oct 26	The Arthropods, Part 1 (Ch. 14)	
Oct. 29	The Arthropods, Part 2	Exam 2
	WEEK #10	
Nov 2	Tardigrades & Onychophorans (Ch. 15)	
Nov 5	The Nematodes (Ch. 16)	Lab 8: Macroinvertebrates & Water Quality Assessment
	WEEK #11	
Nov 9	Nearly Nematodes? (Ch. 17)	
Nov 12	Phyla of Uncertainty! (Ch. 18)	Lab 9: Chelicerata & Myriapoda
	WEEK #12	
Nov 16	The "Lophophorates" Quiz 2	
Nov 19	The Echinoderms (Ch. 20)	Lab 10: Echinoderm Dissections
	WEEK #13	
Nov 23	The Hemichordates (Ch. 21)	
Nov 26	No Class- Thanksgiving Recess	No Lab
	WEEK #14	
Dec 3	The Xenoturbellids (Ch. 22)	
Dec 7	The Nonvertebrate Chordates (Ch. 23)	Lab 11: Review & Feast
	WEEK #15	
Dec 10	Invertebrate Reproduction & Development (Ch. 24)	
Exam week	Exam 3	Exam 3

GRADES

3 Exams (100 points each)

2 Lecture Quizzes (25 points)

1 Beast Profile (25 points)

Lecture total: 350 points

Lab total: 150 points (details on separate syllabus)

I do not curve grades, but I do round grades up from the 0.5% level (for example, if your final grade is 86.5%, you will be rounded up to 87%. You can drop your lowest lecture quiz grade. Grade cut-offs are as follows:

A 90 to 100%; **B+** 87 to 89; **B** 80 to 86; **C+** 77 to 79; **C** 70 TO 76; **D** 60 to 69; **F** Below 60

Late Assignment Policy: 10% will be deducted for each day an assignment is late. No excuses needed.

ASSIGNMENTS

Reading. Please always read the Research Focus Boxes in each assigned chapter BEFORE coming to class. The rest, you can either read before or after class, depending on your personal preference.

Beast Profile. Each student will be expected to present to the class a profile of one critter of your choosing (based on awesomeness, horror or disgust). Presentations will be 5 to 7 minutes. At a minimum, you will need to provide 2 or 3 PowerPoint slides of basic information that will be included at the end of the day's lecture. Basic information should include a picture, the scientific name of the organism, how it fits in the tree of life, and why you chose it. Other than that, be creative. You can bring props, costumes, you can sing about it. The only thing you CANNOT do is show a narrated video of it that was NOT made by you. Have fun! Presentations begin on September 14th.

Lab Assignments. These will be turned in directly to your TA. See the lab syllabus for details and dates.

Instructor Accessibility. I will be available for walk-in meetings or instant e-mail replies during the hours listed at the top of this document. For students who are unavailable during the hours listed, I have a limited amount of time for appointments at other times. In addition, I will respond to e-mails outside of those hours within reason. You can expect a response within 24 hours, usually less, for e-mails received during the week.

COURSE EXPECTATIONS AND POLICIES

Lectures. I expect you to attend lecture. Students who regularly attend lecture score significantly higher on tests than students who do not (e.g., C vs. B+), plus I am more likely to bump up your final grade if I know who you are! Regardless of whether you are in class or not, however, you are responsible for everything which is discussed in lecture, everything which is assigned as class reading, and any handouts which are given in class. You are expected to make your own arrangements for access to class notes or handouts that you missed. As a study aid, I will post the lecture slides on Sakai by the end of each

week. PLEASE resist the urge to print them out, but if you feel you must, be sure to print multiple slides per page to conserve paper. Keep in mind that the slides only form an outline for the material covered in class and are therefore not a good substitute for class attendance. If you choose to use a laptop for taking notes during class, please refrain from checking e-mail or browsing the Internet – if you are caught doing so, I will ask you to put your computer away immediately.

Also:

- Laboratory attendance is mandatory. One unexcused absence from lab will reduce your class grade one letter (e.g., a B becomes a C). Two unexcused absences will reduce your class grade two letters (e.g., a B becomes a D). Three unexcused absences will result in failure of the class.
- If you must miss an exam or a laboratory, you must clear it in advance directly with me or your TA. In many cases, I will require official documentation of your excuse (e.g., doctor's or dean's note).
- Missed exams without permission from the instructor will result in a grade of 0 points.
- **I expect you to check your e-mail for class announcements!!!!**
- **Academic dishonesty of any kind will not be tolerated (see below).**

ACADEMIC HONOR CODE

Each student has the responsibility (1) to uphold the highest standards of academic integrity in the student's own work, (2) to refuse to tolerate violations of academic integrity in the university community, and (3) to foster a high sense of integrity and social responsibility on the part of the university community.

Cheating and Plagiarism: Plagiarism is defined as the use of any information, published, or unpublished without acknowledgement. Cheating occurs when you use the work of another student in place of your own. Neither will be tolerated. It is extremely important that you distinguish your own ideas from those of others. You must always acknowledge sources. If you have any questions, see the instructor.

AMERICANS WITH DISABILITIES ACT:

Students with disabilities needing academic accommodation should contact the New Brunswick Campus Coordinator for Students with Disabilities at (732) 932-1711. SYLLABUS CHANGE POLICY: This syllabus is a guide for the course and is subject to change.

Notice will be given. If you find an error, please contact me.