

Invertebrate Zoology (BIOL-211)

Syllabus Spring 2024

01/17/2024

Dr. Hyla Sweet
CBET 75-3119

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Instructor: Dr. Hyla Sweet
Contact information: Office: CBET 75-3119
Email: hxssbi@rit.edu (preferred mode of communication)
Phone: 585-475-5143
Please contact me via email to set up a meeting

Instructor-Student Communication: I will regularly use email to send information to the whole class.

Online Course Material: myCourses will be used for lecture notes, grades

Student Hours: Tuesdays and Thursdays 10:00AM to 12:00PM in CBET 1130
Feel free to talk with me in lab, or before or after class
Otherwise, please contact me via email to set up a meeting

Class Times: Mon, Wed, Fri 11:00AM-11:50AM in WAL-4530
Lab Time: Thurs 2:00PM-4:50PM in CBT-1130
Final Exam: Wednesday May 8:00AM- 10:30AM in WAL-4530

Course Description: Biology of invertebrate animals with emphasis on phylogeny and functional morphology.

Course Goals:

This course will...

1. Introduce students to the diversity of animal life.
 - a. Students will be able to identify by sight the common name, phylum, class, etc. of most invertebrate animals.
 - b. Students will be able to apply the taxonomic classification system and demonstrate how taxonomy relates to the evolutionary history of the animals.
 - c. Students will be able to describe important evolutionary, ecological, developmental and behavioral concepts.
2. Introduce students to the anatomy and physiology of invertebrate animals.

- a. Students will be able to explain how anatomy relates to function in feeding, locomotion, respiration, excretion and reproduction.
 - b. Students will be able to explain how the physiology of these animals relates to their ecology.
 3. Introduce students to the evolutionary relationships between animals.
 - a. Students will be able to identify and use synapomorphies (share derived characteristics; defining characteristics) to show how animals are related and identified taxonomically.
 4. Demonstrate the importance of invertebrates to humans.
 - a. Students will be able to relate how different animals impact human life through biomedical, economic and agricultural applications.
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Required Materials:

- **Lab Manual:** “Laboratory Exercises in Invertebrate Zoology”. 3rd edition. A. R. Holyoak. 2022
- **Lab Notebook** (composition book or other; checked every week)

Recommended Materials:

- **Textbook:** “Invertebrates”. 4th edition. by R. C. Brusca, G. Giribet, W. Moore. 2023
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Attendance in lecture and lab:

It is expected that students will engage with the designated “in-person” modality of this course, as scheduled. Exceptions are illness, quarantine, and DSO accommodations. If you will not be attending class because of an exception listed above, please let me know ***before class/lab*** and I will make plans to provide the materials and/or assignments to you.

Tentative Grading Scheme and Important Due Dates:

Week	Date	Item	Percent of Final Grade
1	-	-	-
2	Jan 22	Lecture Quiz 1`	1
3	Jan 29	Lecture Quiz 2	1
4	Feb 5	Lecture Quiz 3	1
5	Feb 12	Lecture Quiz 4	1
6	Feb 19	Lecture Quiz 5	1
6	Feb 22	Project 1	2
7	Feb 26	Lecture Exam 1	10
7	Feb 29	Lab Practical 1	10
8	Mar 4	Lecture Quiz 6	1
9	Spring Break		
10	Mar 18	Lecture Quiz 7	1

11	Mar 25	Lecture Quiz 8	1
12	Apr 1	Lecture Quiz 9	1
13	Apr 8	Lecture Quiz 10	1
14	Apr 15	Lecture Exam 2	10
14	Apr 18	Lab Practical 2	10
15	Apr 25	Project 2	2
15-16	Apr 22-29	Presentations	10
	May 8	Final Exam	10
Each week		Lab Notebook Checks	11 (1% per check)
Each week		Lab Quizzes	11 (1% per quiz)
1x		Lab participation	2
1x		Invertebrates and Humans	2
Total			100

The **Refined Grading System** (Plus/Minus System)

(A = 93.4-100, 4.000; A- = 90.0-93.3, 3.667; B+ = 86.7-89.9, 3.333; B = 83.4-86.6, 3.000; B- = 80.0-83.3, 2.667; C+ = 76.7-79.9, 2.333; C = 73.4-76.6, 2.000; C- = 70.0-73.3, 1.667; D = 60.0-69.9, 1.000; F = below 60, 0.000)

Tentative Lecture and Lab Schedule

Topics and Readings from Textbook

Week 1

Jan 15 (Mon) Martin Luther King Jr. Day (No Classes)

Jan 17 (Wed) Ch. 1. Intro
Ch. 2. Systematics, phylogeny, classifications

Jan 18 (Thur) Lab 1: Introduction
LAB NOTEBOOK CHECK #1 (1%)
LAB QUIZ #1 (1%)

Jan 19 (Fri) Ch. 3. Introduction to Animal Kingdom
Ch. 4. Introduction to Animal Kingdom

Week 2

Jan 22 (Mon) **LECTURE QUIZ #1. Ch. 1, 2, 3, 4 (1%)**
Ch. 5. Sponges

Jan 24 (Wed) Ch. 5. Sponges

Jan 25 (Thur) Lab 2: Sponges

LAB NOTEBOOK CHECK #2 (1%)

LAB QUIZ #2 (1%)

Jan 26 (Fri) Ch. 6. Placozoa and Ctenophores

Week 3

Jan 29 (Mon) **LECTURE QUIZ #2. Ch. 5, 6 (1%)**

Ch. 7. Cnidaria

Jan 31 (Wed) Ch. 7. Cnidaria

Feb 1 (Thur) Lab 3: Cnidaria

LAB NOTEBOOK CHECK #3 (1%)

LAB QUIZ #3 (1%)

Feb 2 (Fri) Ch. 8. Intro to Bilateria,
Ch. 9. Xenacoelomorpha
Ch10. Protostomia, Spiralia, and the Phylum Dicyemida
Ch11. Gnathifera
Ch12. Platytrichochozoa

Week 4

Feb 5 (Mon) **LECTURE QUIZ #3. Ch. 7, 8, 9, 10, 11, 12 (1%)**
Ch. 13. Intro to Lophotrochozoans and the Phylum Mollusca

Feb 7 (Wed) Ch. 13. Intro to Lophotrochozoans and the Phylum Mollusca

Feb 8 (Thur) Lab 4: Molluscs

LAB NOTEBOOK CHECK #4 (1%)

LAB QUIZ #4 (1%)

Feb 9 (Fri) Ch. 14. Nemertea

Week 5

Feb 12 (Mon) **LECTURE QUIZ #4. Ch. 13, 14 (1%)**
Ch. 15. Annelids

Feb 14 (Wed) Ch. 15. Annelids

Feb 15 (Thur) Lab 5: Annelids

LAB NOTEBOOK CHECK #5 (1%)

LAB QUIZ #5 (1%)

Feb 16 (Fri) Ch. 16. The Lophophorates

Week 6

Feb 19 (Mon) **LECTURE QUIZ #5. Ch. 15, 16 (1%)**

Ch. 16. The Lophophorates

Feb 21 (Wed) Ch. 17. Rousphozoa

Feb 22 (Thur) Lab 6: Flatworms

LAB NOTEBOOK CHECK #6 (1%)

LAB QUIZ #6 (1%)

Project (2%)

Feb 23 (Fri) Ch. 18. Ecdysozoa

Ch. 19. Nematoida

Week 7

Feb 26 (Mon) **LECTURE EXAM 1 (Chapters 1-19) (10%)**

Feb 28 (Wed) Ch 20. Panarthropoda

Feb 29 (Thur) **Lab 7: Lab Practical (10%)**

Mar 1 (Fri) Ch. 21. Crustacea

Week 8

Mar 4 (Mon) **LECTURE QUIZ #6. Ch. 20, first part of 21 (1%)**

Ch. 21. Crustacea

Mar 6 (Wed) Ch. 21. Crustacea

Mar 7 (Thur) Lab 8: Arthropods I-Crustacea

LAB NOTEBOOK CHECK #7 (1%)

LAB QUIZ #7(1%)

Mar 8 (Fri) Ch. 22. Hexapoda

Week 9-Spring Break

Mar 11 (Mon) Spring Break

Mar 13 (Wed) Spring Break

Mar 14 (Thur) Spring Break

Mar 15 (Fri) Spring Break

Week 10

Mar 18 (Mon) **LECTURE QUIZ #7. Ch. 21, first part of 22 (1%)**
Ch. 22. Hexapoda

Mar 20 (Wed) Ch. 22. Hexapoda

Mar 21 (Thur) Lab 9: Arthropods II-Hexapoda
LAB NOTEBOOK CHECK #8 (1%)
LAB QUIZ #8 (1%)

Mar 22 (Fri) Ch. 23. Myriapods

Week 11

Mar 25 (Mon) **LECTURE QUIZ #8. Ch. 22, 23 (1%)**
Ch. 24. Chelicerates

Mar 27 (Wed) Ch. 24. Chelicerates

Mar 28 (Thur) Lab 10: Arthropods III-Chelicerata
LAB NOTEBOOK CHECK #9 (1%)
LAB QUIZ #9 (1%)

Mar 29 (Fri) Ch. 25. Intro to Deuterostomia, Phylum Hemichordata

Week 12

Apr 1 (Mon) **LECTURE QUIZ #9. Ch. 24, 25 (1%)**
Ch. 26. Echinoderms

Apr 3 (Wed) Ch. 26. Echinoderms

Apr 4 (Thur) Lab 11: Echinoderms
LAB NOTEBOOK CHECK #10 (1%)

LAB QUIZ #10 (1%)

Apr 5 (Fri) Ch. 27. Phylum Chordata

Week 13

Apr 8 (Mon) **LECTURE QUIZ #10. Ch. 26, 27 (1%)**
Ch. 27. Phylum Chordata

Apr 10 (Wed) Ch. 27 Phylum Chordata

Apr 11 (Thur) Lab 12: Chordates
LAB NOTEBOOK CHECK #11 (1%)
LAB QUIZ #11 (1%)

Apr 12 (Fri) Ch. 28. Invertebrate Phylogeny

Week 14

Apr 15 (Mon) **LECTURE EXAM 2 (Ch. 20-28) (10%)**

Apr 17 (Wed) Student Presentations

Apr 18 (Thur) **Lab 13: Lab Practical (10%)**

Apr 19 (Fri) Student Presentations

Week 15

Apr 22 (Mon) Student Presentations

Apr 24 (Wed) Student Presentations

Apr 25 (Thur) **Lab 14: Project (2%)**

Apr 26 (Fri) Student Presentations

Week 16

Apr 29 (Mon) Student Presentations

Finals Week

Wednesday May 8 8:00AM to 10:30AM WAL-4530 (10%)

ACCOMMODATION STATEMENT

RIT is committed to providing academic adjustments to students with disabilities. If you would like to request academic adjustments such as testing modifications due to a disability, please contact the Disability Services Office (DSO). Contact information for the DSO and information about how to request adjustments can be found at <https://www.rit.edu/disabilityservices/>. After you receive academic adjustment approval, it is imperative that you see me during office hours so that we can work out whatever arrangement is necessary.

ACADEMIC INTEGRITY

As an institution of higher learning, RIT expects students to behave honestly and ethically at all times, especially when submitting work for evaluation in conjunction with any course or degree requirement. RIT Online encourages all students to become familiar with the [RIT Honor Code](#) and with the [RIT Academic Integrity Policy](#).

Academic Dishonesty

Academic Dishonesty falls into three basic areas: cheating, duplicate submission and plagiarism.

Cheating is any form of fraudulent or deceptive academic act, including falsifying of data, possessing, providing, or using unapproved materials, sources, or tools for a work submitted for faculty evaluation.

Duplicate submission is the submitting of the same or similar work for credit in more than one course without prior approval of the instructors for those same courses.

Plagiarism is the representation of others' ideas as one's own without giving proper credit to the original author or authors. Plagiarism occurs when a student copies direct phrases from a text (e.g., books, journals, internet) and does not provide quotation marks, or paraphrases or summarizes those ideas without giving credit to the author or authors. In all cases, if such information is not properly and accurately documented with appropriate credit given, then the student is guilty of plagiarism.

Consequences of Academic Dishonesty

Any act of Academic Dishonesty will incur the following possible consequences. After notifying and presenting the student with evidence of such misconduct, the instructor has the full prerogative to assign an "F" for the offense, or to assign an "F" for the entire course. The instructor will inform and, if possible, meet with the student concerning the decision reached on the "F" for the offense, or the "F" for the entire course. A student may be brought before the Academic Conduct Committee of the College in which the alleged offense occurred, and may face academic suspension or dismissal from the Institute. (See D17.0, Academic Conduct and Appeals Procedures," and D18.0, "RIT Student Conduct Process.")

RIT POLICY PROHIBITING DISCRIMINATION AND HARASSMENT

RIT is committed to providing a safe learning environment, free of harassment and

discrimination as articulated in our university policies located on our governance website. RIT's policies require faculty to share information about incidents of gender based discrimination and harassment with RIT's Title IX coordinator or deputy coordinators, regardless whether the incidents are stated to them in person or shared by students as part of their coursework.

If you have a concern related to gender-based discrimination and/or harassment and prefer to have a confidential discussion, assistance is available from one of RIT's confidential resources on campus (listed below).

1. The Center for Women & Gender: Campus Center Room 1760; 585-475-7464; CARES (available 24 hours/7 days a week) Call or text 585-295-3533.
2. RIT Student Health Center – August Health Center/1st floor; 585-475-2255.
3. RIT Counseling Center - August Health Center /2nd floor - 2100; 585-475-2261.
4. The Ombuds Office – Student Auxiliary Union/Room 1114; 585-475-7200 or 585-475-2876.
5. The Center for Religious Life – Schmitt Interfaith Center/Rm1400; 585-475-2137.
6. NTID Counseling & Academic Advising Services – 2nd Floor Lynden B. Johnson; 585-475-6468 (v), 585-286-4070 (vp).

RIT COPYRIGHT STATEMENT

The materials used in this course, including images and movies, are copyrighted. The use of copyright protected material outside this RIT course may be prohibited by law.

RIT POLICY ON ATTENDANCE

RIT's official policy on attendance states that:

"Absences, for whatever reason, do not relieve students of their responsibility for fulfilling normal requirements in any course. In particular, it is the student's responsibility to make individual arrangements in advance of missing class due to personal obligations such as religious holidays, job interviews, athletic contests, etc., in order that he or she may meet his or her obligations without penalty for missing class." ([RIT Governance Policy D4.0, Section I.B](#))

Therefore, if a student needs to miss class, there are mutual responsibilities for students and faculty:

1. It is the student's responsibility to notify the faculty member ***in advance of the planned absence***.
2. With advance notice of the planned absence, it is the faculty member's responsibility to ensure that the student can fulfill all class assignments and expectations without penalty or bias.

COUNSELING AND PSYCHOLOGICAL SERVICES

Many students at RIT face personal challenges or have psychological needs that may interfere with their academic progress, social development, or emotional wellbeing. The university offers a variety of confidential services to help you through difficult times, including individual and group counseling, crisis intervention, consultations, online chats, and mental health screenings. These services are provided by staff who welcome all students and embrace a philosophy

respectful of clients' cultural and religious backgrounds, and sensitive to differences in race, ability, gender identity and sexual orientation. Located on the second floor of the August Center building (above the Student Health Center), [Counseling and Psychological Services](#) provides confidential and personalized services to meet the mental health needs of currently enrolled, undergraduate and graduate students on the Henrietta campus.

Our mission is to enhance the RIT student potential for learning and success and to promote the emotional health and well-being of the campus community through:

1. Providing responsive, empirically-based, and culturally competent mental health services that include:
 - o Short-term individual psychotherapy
 - o Group counseling and psychotherapy
 - o Urgent Care crisis intervention
 - o Assessment and evaluation
 - o Psychiatric services

2. Providing graduate clinical training in counseling, psychotherapy and college mental health

3. Providing campus-wide consultation and education

Campus Location: 2100 August Center, second floor

Phone: During Business Hours: 585-475-2261

After Business Hours, Weekends/Holidays: 855-436-1245

RIT SAFETY PLAN

RIT is committed to the safety of the RIT community and beyond. It is wise to check the RIT Ready website, and specifically the RIT Safety Plan, for the most up to date information.

<https://www.rit.edu/ready/rit-safety-plan>

Changes to the syllabus

The syllabus is provided as a guide to this course and will be followed closely. However, as instructor, I reserve the right to modify the syllabus during the semester, if necessary, to ensure that we achieve course learning objectives. You will receive notice of any changes to the syllabus via email and the myCourses.

Continuity of Learning (Course-level)

In the event that there is a disruption in our learning, I will communicate all changes to you as quickly as possible. If a personal interruption removes me from the in-person classroom space, you will be informed of this directly via email and on myCourses. In this communication, any changes in the learning structure will be carefully outlined, as will all necessary steps moving forward. Communication is key, and it will be important for you to check your RIT email and myCourses regularly this semester.

Continuity of Learning (Student-level)

The RIT Safety Plan includes a section specifically for students, including accommodations, travel, health, etc. <https://www.rit.edu/ready/rit-safety-plan#for-students>. This site will be updated as needed to provide important information regarding your requirements for being on campus and staying healthy.

In the event that there is a disruption in your ability to learn with us, communication is key. The faster you can communicate these disruptions with me, the easier it is to keep you on a successful path in this course. If your absence from class is due to personal illness, please contact the Disability Services Office (<https://www.rit.edu/disabilityservices/>) as soon as possible. You may also reach out to your Academic Advisor who can assist you in making all of the necessary contacts with DSO, your instructors, etc.

Changes to the University Calendar

In the event that there is a significant change to the University calendar, this syllabus will be modified to meet those changes, if necessary. Modifications will be shared immediately with our class via myCourses and communications directly from me via email.

OTHER RESOURCES

Everyone in the RIT Community is dedicated to your success. With this, you need to ask for help when you need it! I am, and all of your faculty are, your first stop for help your courses. Your Academic Advisor also has a wealth of information for you! You may already know that you need very specific help.

Have trouble with time management, note taking in class, just getting your academic self together? Check out all of the resources the RIT Academic Success Center has to offer!

<https://www.rit.edu/studentaffairs/asc/> From workshops to individual coaching, they have only your success in mind.

Have a paper that you just can't wrap your head around ... or can't even get started? The

University Writing Program is here to help you! <https://www.rit.edu/academicaffairs/writing/>.

Schedule an appointment for a consultation, or peruse all of their online tutorials for writing, just do not let writers block keep you from succeeding! Have a presentation to give 4 weeks from now and you already have stage fright?! Have your presentation together and now you just need to building your presenting courage? Make an appointment with the Expressive Communication Center (<https://library.rit.edu/expressive-communication-center>), or in their space in Wallace Library (Room 2550) for getting it all together. Hey – and while you are in Wallace Library – your friendly librarian can help you find good resources for that presentation (not just google and Wikipedia!). Each College has a librarian who would love to meet you and talk about what you need to succeed. These are just come of the places on campus that are ready and willing to help you any time. The RIT Student Life website includes descriptions of all of the departments on campus available to help you (<https://www.rit.edu/studentlife/departments>). If you still need more resources ask your faculty, advisors, staff, and other students for help.

CONCLUDING STATEMENT

Most importantly, please be assured that I want students to learn and to receive the good grades they have earned and deserve. Please make an appointment with me should you have any difficulty with your work in this course.