

Biology 3408:001/V01/5607 – Invertebrate Zoology - Fall 2025
Lecture MW 11:00-12:15 WSB 101
Syllabus

Instructor: Dr. Chris M. Ritzi

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Office hours: M 3:30-5:00 PM

T R 3:30 – 4:30 PM

W 2:00-5:00 PM

or by appt.

Class Website: [http:// shsu.blackboard.edu/](http://shsu.blackboard.edu/) & <http://faculty.sulross.edu/critzi/>

Text: Invertebrates. 4th edition. Brusca, R. C., G. Giribet, and W. Moore.

Course Description: It is the goal of this class to focus on three aspects of invertebrate zoology. The first of these is to understand functional morphology, in terms of its effect on invertebrate life. The second major focus is to examine life from the view of ontogeny, so to understand the importance of development. The final focus of this course is to examine the phylogeny of the invertebrates, so to see how they are related to one another.

Student Learning Outcomes

The biology student graduating with a BS in Biology should be able to:

SLO1 - The student will be able to demonstrate an understanding of basic biological concepts, including but not limited to evolution via natural selection, cell theory, and the role and function of DNA.

SLO2 - The student will be able to demonstrate utilization of various field techniques toward addressing scientific questions in the specific discipline. These field techniques can include, but are not limited to, plant collection and processing, various animal collection techniques, ecological surveying and sampling, and biodiversity indexing.

SLO3 - The student will be able to use biological instrumentation to solve biological problems using standard observational strategies.

SLO4 - The student will develop writing skills by summarizing and critiquing recent relevant biological literature.

Student Learning Outcomes for Graduates in the Program

The biology student graduating with a MS in Biology should be able to:

- 1) Understanding and implementation of scientific methodology.
- 2) Utilization of field techniques toward addressing scientific questions.
- 3) Be able to utilize statistics toward the analysis of data within the discipline.
- 4) Be able to effectively disseminate scientific findings using both written and oral communication.

Student Learning Objectives for this Course: The following 4 objectives will be covered over the course of the term. The first is to introduce how invertebrates are organized, how they work, & how they reproduce. Secondly, students should come away from this class with an understanding of the biodiversity inherent in the animal groups not including the vertebrates. Next, this course should promote an appreciation of invertebrates and their many innovations. Finally, this course should provide a foundation to the field of invertebrate zoology and any of its daughter disciplines.

Marketable Skills:

1. Students will be able to organize, analyze, and interpret data.
2. Students will be proficient at using presentation software.
3. Students will acquire experience in managing time and meeting deadlines.
4. Students will gain the ability to speak effectively and write concisely about scientific topics.
5. Students will acquire experience and guidance in the development of professional email correspondence.

Grading: Your grade will be assigned based on the percentage of points you get out of a total possible 600 points. (100pt exams (3), 100 pt quizzes (5), 200pts from lab). In addition, graduate students will be required to complete a set of several take-home questions as secondary exams for each in-class exam, and grads will help to develop and present one of the lab sessions during the course.

Tests: There will be a total of 3 exams, each worth 100 points. Quizzes will be given throughout the semester to assess material between exams. If you miss an exam or quiz and have a legitimate excuse, contact me within 24 hours of the test and we will arrange a make-up test. If you do not contact me within 24 hours, you will receive a zero on that exam.

Attendance: Students missing 20% of lectures (6 lectures) OR labs (3 labs) shall be dropped from the class per the SRSU catalog. Any student dropped for excessive absences will receive an F for the course grade. Please notify your instructor BEFORE missing class for authorized activities, death in the family, or illness. Exams missed for any reason must be made up within one week of the originally scheduled date. REGARDLESS OF WHY AN ABSENCE OCCURS, YOU MAY BE GIVEN AN F FOR THE COURSE GRADE IF YOU ACCUMULATE SIX ABSENCES.

Lecture courtesy: The general rules of classroom etiquette are below.

- 1) Please do not talk to others in class while the instructor is lecturing. If you have a question, ASK THE INSTRUCTOR! That's what I'm here for.
- 2) No eating, chewing, dipping, etc.

- 3) If you are going to attend class, please do so. Leaving and returning to class repeatedly is disruptive, as well as showing up after half the period is over.
- 4) Please turn cell phones off or to silent while in class. They are disruptive to the entire class, and distract others as well.

Tentative Lecture Outline

Date	Lecture topic	Chapter
Aug 25	Introduction & Architecture	1
Aug 27	Architecture & Phylogeny	2
Sept 1	Labor Day – No Class	
Sept 3	Development	2
Sept 8	Choanoflagellata & Porifera	3&4
Sept 10	Placozoa	4
Sept 15	Cnidaria	6
Sept 17	Cnidaria	6
Sept 22	Ctenophora & Exam I	7
Sept 24	Platyhelminthes	8
Sept 29	Mesozoa	9
Oct 1	Nemertines & Gnathifera	10&11
Oct 6	Annelida	13
Oct 8	Sipuncula	13
Oct 13	Mollusca	12
Oct 15	Mollusca	12
Oct 20	Lophophorates	19
Oct 22	Lophophorates & Exam II	19
Oct 27	Onychophora & Tardigrades	15
Oct 29	Origin of Arthropods	15
Nov 3	Arthropods	14
Nov 5	Arthropoda	14
Nov 10	Nematoda	16
Nov 12	Nematoda	16
Nov 17	Cycloneuralia	17
Nov 19	Unknown Phyla	18
Nov 24	Echinodermata	20
Nov 26	Thanksgiving Holidays – No Class	
Dec 1	Hemichordata	21
Dec 3	Chordates	22
Dec 4	Dead Day	
Dec 9	10:15am - Final Exam for MW 11:00	

Note – This outline is subject to change for reasons of course interest, time constraint, or instructor whim. The exams will be administered on the dates given, unless material relevant for a given exam has not been covered. Under such cases, an exam may be moved a class period or two to aid in the clarity and understanding of the material.

SRSU Disability Services: Sul Ross State University (SRSU) is committed to equal access in compliance with Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the student's responsibility to initiate a request each semester for each class. Students seeking accessibility/accommodations services must contact SRSU's Accessibility Services Coordinator at 432-837-8203 (please leave a message and we'll get back to you as soon as we can during working hours), or email counseling@sulross.edu. Our office is located on the first floor of Ferguson Hall (Suite 112), and our mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas, 79832.

SRSU Distance Education Statement: Students enrolled in distance education courses have equal access to the university's academic support services, such as library resources, online databases, and instructional technology support. For more information about accessing these resources, visit the SRSU website. Students should correspond using Sul Ross email accounts and submit online assignments through Blackboard, which requires secure login. Students enrolled in distance education courses at Sul Ross are expected to adhere to all policies pertaining to academic honesty and appropriate student conduct, as described in the student handbook. Students in web-based courses must maintain appropriate equipment and software, according to the needs and requirements of the course, as outlined on the SRSU website. Directions for filing a student complaint are located in the student handbook.

Libraries: The Bryan Wildenthal Memorial Library in Alpine. Offers FREE resources and services to the entire SRSU community. Access and borrow books, articles, and more by visiting the library's website, library.sulross.edu. Off-campus access requires logging in with your LoboID and password. Librarians are a tremendous resource for your coursework and can be reached in person, by email (srsulibrary@sulross.edu), or phone (432-837-8123).

Academic Integrity: Students in this class are expected to demonstrate scholarly behavior and academic honesty in the use of intellectual property. A scholar is expected to be punctual, prepared, and focused; meaningful and pertinent participation is appreciated. Examples of academic dishonesty include but are not limited to: Turning in work as original that was used in whole or part for another course and/or professor; turning in another person's work as one's own; copying from professional works or internet sites without citation; collaborating on a course assignment, examination, or quiz when collaboration is forbidden.

Classroom Climate of Respect: Importantly, this class will foster free expression, critical investigation, and the open discussion of ideas. This means that all of us must help create and sustain an atmosphere of tolerance, civility, and respect for the viewpoints of others. Similarly, we must all learn how to probe, oppose and disagree without resorting to tactics of intimidation, harassment, or personal attack. No one is entitled to harass, belittle, or discriminate against another on the basis of race, religion, ethnicity, age, gender, national origin, or sexual preference. Still we will not be silenced by the difficulty of fruitfully discussing politically sensitive issues.

Supportive Statement: I aim to create a learning environment for my students that supports various perspectives and experiences. I understand that the recent pandemic, economic disparity, and health concerns, or even unexpected life events may impact the conditions necessary for you to succeed. My commitment is to be there for you and help you meet the learning objectives of this course. I do this to demonstrate my commitment to you and to the mission of Sul Ross State University to create a supportive environment and care for the whole student as part of the Sul Ross Familia. If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to come and talk with me. I want to be a resource for you.