

SYLLABUS
BIOL 4607/5602 Field Zoology Summer 2022

Instructor: Dr. Thornton R. Larson
Lectures: MTWRF 900-1340 WSB 107

Office Hours: TBD
Office Phone: (432)837-8084
Email: Thornton.Larson@sulross.edu
Office: WSB 221

Course Description:

Field zoology is the fun part of biology. The dirty part, where you are out in the field looking for all those organisms that you always found fascinating. This course is not just meant to get you outside, but to assist you in field biology experimental design, and study execution. I am extremely excited for this course. The primary facets of the course involve finding, reading, and exploring scientific literature to build your own projects as well as support your conclusions. You will focus on designing your own experiment to execute over a four-day period on a trip to Christmas Mountain. You will be exposed to several field techniques on a long field trip to Caddo Lake to look at insects, Louisiana to look at gar (communication pending) or other aquatic research, and Chaparral Wildlife Management Area to experience drift fence and pitfall trap arrays along with mist-netting and dove banding. Your own study may utilize some of the techniques observed or others we discover through class reading. You will be expected to utilize some form of statistic for a comparative analysis of your project in Program R. It will be a busy, but incredibly fun summer where you will get hands on experience of field zoology.

NO REQUIRED TEXTBOOK!!!! We will be sampling from a wide variety of source material

1. We will be utilizing various papers and sub sections in different methodology texts including:
 - a. Measuring and Monitoring Biological Diversity: Standard Methods for Amphibians, edited by Heyer et al.
 - b. Reptile Biodiversity: Standard Methods for Inventory and Monitoring, edited by McDiarmid et al.
 - c. Field and Laboratory Techniques in Vertebrate Biology, by Ryan, J.
 - d. Fisheries Techniques, edited by Zale et al.
 - e. Bird Ecology and Conservation: A handbook of techniques, edited by Sutherland et al.
2. Various field guides on the organism/s of your choice may be helpful

Exams and Grading:

Predeparture Exam on techniques and experimental design	100
Field study proposal	100
Proposal Presentation	100
Project report	100
Project Presentation	100
Total Credit	500 points

A 90 – 100% B 80 – 89% C 70 – 79% D 60 – 69% F <60%

For graduate students an additional assignment will be added

Additional graduate student assignment:

Part of conducting research is making sure you can fund it. For this assignment you will locate and write a grant proposal that you could see yourself submitting. The proposal can be an expansion on the project you design for this course or toward a grant you would apply to in order to fund your current graduate project or an aspect of it. It is my hope that the grant is something you submit and connect yourself further into the scientific community of your interest.

Attendance: Mandatory. No roll will be called, but this course is sized to where I will recognize when someone is not present. **I am allowed to drop you from my class** if you miss **more than six times** (that accounts for 2 full weeks of lecture). I do not wish to hear excuses for missing class, and do not want to hear about it every time you are gone. Absences are excused only if you have a documented, university approved excuse (hospitalization, funeral, etc.) **DO NOT MISS EXAMS** unless you have a documented, university-approved excuse. If you do not inform me of your approved absence before the exam it will be a **ZERO**.

FIELD TRIPS ARE MANDATORY FOR COMPLETION OF THE COURSE!!!

The trips are where you learn hands on research and implement your study, you have to be there. It is how it is.

Course Objectives: At the end of the semester, students will:

1. Understand and explore various techniques of data collection for field biology
2. Implement full experimental design for a project
3. Prepare, organize, interpret data into a communicable article
4. Understand how to explore and utilize scientific articles
5. Implement goal setting and time management of a project

Student Learning Outcomes (SLOs) for Biology:

1. Demonstrate an understanding of evolution by natural selection.
2. Demonstrate an integration of environmental awareness into everyday modern life.

3. Demonstrate utilization of various field techniques toward addressing scientific questions in the discipline.
4. Conduct basic statistical analysis from standard observational strategies.

Marketable Skills:

1. Ability to organize, analyze, and interpret data.
2. Proficiency in using presentation software.
3. Experience in managing time and meeting deadlines.
4. Ability to speak effectively and write concisely about scientific topics.
5. Experience in the development of professional email correspondence.

SRSU Library Services

The Sul Ross Library 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 your LoboID and password. Check out materials using your photo ID. Librarians are a tremendous resource for your coursework and can be reached in person, by email (srsulibrary@sulross.edu), or phone (432-837-8123).

SRSU Disability Services:

ADA (Americans with Disabilities Act) 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 Rebecca Greathouse Wren, LPC-S, 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 rebecca.wren@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

ACADEMIC HONESTY: The University expects all students to engage in all academic pursuits in a manner that is beyond reproach and to maintain complete honesty and integrity in the academic experiences both in and out of their classroom. The University may initiate disciplinary proceeding against a student accused of any form of academic dishonesty, including but not limited to, cheating on an examination or other academic work, plagiarism, collusion, and the abuse of resource materials. "Cheating" includes 1. Copying from another student's test paper, laboratory report, other report, or computer files, data, listings, and/or programs, or allowing another student to copy from same. 2. Using, during a test, materials not authorized by the person giving the test. 3. Collaborating, without authorization, using, buying, selling, stealing, transporting, soliciting, copying, or possessing, in whole or in part, the contents of a non-administered test. 5. Substituting for another student; permitting any other person, or otherwise assisting any other person to substitute for oneself or for another student in the taking of an examination or test or the preparation of academic work to be submitted for academic

credit. 6. Bribing another person to obtain a non-administered test or information about a non-administered test. 7. Purchasing, or otherwise acquiring and submitting as one's own work any research paper or other writing assignment prepared by an individual or firm. This section does not apply to the typing of a rough and/or final version of an assignment by a professional typist. 8. "Plagiarism" means the appropriation and the unacknowledged incorporation of another's work or idea in one's own written work offered for credit. 9. "Collusion" means the unauthorized collaboration with another person in preparing written work offered for credit. 10. "Abuse of resource materials" means the mutilation, destruction, concealment, theft or alteration of materials provided to assist students in the mastery of course materials. 11. "Academic work" means the preparation of an essay dissertation, thesis, report, problem, assignment, or other project that the student submits as a course requirement or for a grade. 12. "Falsification of Data" means the representation, claim, or use of research, data, statistics, records, files, results, or information that is falsified, fabricated, fraudulently altered, or otherwise misappropriated or misrepresented. All academic dishonesty cases may be first considered and reviewed by the faculty member. If the faculty member believes that an academic penalty is necessary, he/she may assign a penalty but must notify the student of his/her right to appeal to the department chair, the dean and eventually, to the Provost and Vice President for Academic and Student Affairs before imposition of the penalty. At each step in the process, the student shall be entitled to written notice of the offence and/or of the administrative decision, an opportunity to respond, and an impartial disposition as to the merits of his/her case. The decision of the Provost and Vice President for Academic and Student Affairs shall be final.

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.

Diversity Statement

"I aim to create a learning environment for my students that supports a diversity of thoughts, perspectives and experiences, and honors your identities (including race, gender, class, sexuality, religion, ability, socioeconomic class, age, nationality, etc.). I also understand that the crisis of COVID, economic disparity, and health concerns, or even unexpected life events could 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 an inclusive 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."

Date	Topic
July 6 th	Syllabus: Finding and reading peer reviewed papers: paper discussion
July 7 th	Reverse Classroom various techniques for field studies
July 8 th	Proposal writing 101: subject, aims, sources; how to build a study
July 11 th	Peer review Introduction sections: paper discussion (Introductions only)
July 12 th	Planning to use statistics in your Experimental design
July 13 th	Introduction to data collection and Introduction to R via RStudio
July 14 th	Peer review methods Paper discussion (Methods only) Predeparture Exam
July 15 th	Preparing for the trip across Texas: prepare questions for host biologists: considerations of data collections and analysis
Sun July 17 th	Leave Alpine: Brazos River Camp (1 night only rest)
July 18 th	Caddo Lake WMA
July 19 th	Caddo Lake WMA
July 20 th	Arrive at Chaparral WMA
July 21 st	Chaparral WMA
July 22 nd	Chaparral WMA (return Saturday July 23 rd)
July 25 th	Prepare for Xmas mountain (proposal presentation) proposal due
July 26 th	Christmas Mountain
July 27 th	Christmas Mountain
July 28 th	Christmas Mountain
July 29 th	Christmas Mountain
Aug 1 st	Compiling data from notes to useable format
Aug 2 nd	Run statistical analysis and create visuals in R
Aug 3 rd	Create Results section
Aug 4 th	Discussion sections and finalizing Presentation
Aug 5 th	Project Presentations
Aug 8 th	Final Paper Due