

Biology 5305.001 – Techniques of Scientific Research Syllabus
Fall 2016: TR 9:30 – 10:45 WSB 107

Instructor: Dr. Chris M. Ritzi

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Office hours: MW 10-11, TR 11-12, T 3-5, or by appt.

Class Website: <http://bbsrsu.sulross.edu> & <http://faculty.sulross.edu/critzi/>

Text: CBE Style Manual.

Course Description: In this course we will introduce you to the world of graduate school. Toward this goal, you will learn about the department and program that you belong to, the type of research being conducted, and what it means to be a graduate student. You will be expected to choose a Major advisor and develop your degree plan. You will also be encouraged to begin developing your thesis topic, with the goal of starting your proposal during this class. Toward this goal, one of your main semester projects will be to write a draft proposal, and make a practice presentation of your proposal presentation to the class. We will cover research design and other aspects on becoming a successful graduate student. Finally, we will use the proposal process as a way to become familiar with scientific writing and the traditional journal manuscript editing process.

Student Learning Outcomes

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.

Course Learning Objectives:

- 1) Demonstrate scientific writing skills
- 2) Organize oneself during the entrance of graduate school by choosing an advisor and developing a degree plan.
- 3) Develop professional presentation skills.
- 4) Work toward planning organizing and developing a thesis topic.

Tests: There will not be any tests throughout the course, as such. Instead, the course will be graded on participation, preparedness, and the presentation of a class project toward the end of term. The project is to be a 15-20 minute presentation about your thesis topic. You will also draft a rough copy of your proposal during this course, to start you and your advisor toward getting your project up and off the ground.

Grading: You will be assessed 200 points based on your participation and preparedness for each week's class, as well as 100 points on your presentation. The presentation grade will be determined by myself and your peers (in part). Your written proposal will be also be worth 100 pts after original writing and revision. Finally, there are 100 points built into various same assignments, such as a library assignment, degree plan, etc.

Attendance: Students missing 20% of lectures (6 class periods) shall be dropped from the class with an F per the SRSU catalog. Please notify your instructor BEFORE missing class for authorized activities, death in the family, or illness.

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

- 1) This is a graduate class, so feel free to talk about the material as a group. This doesn't mean you should talk about other things for the hour.
- 2) No eating, chewing, dipping, etc. (unless it is a brown bag session)
- 3) Please turn cell phones and pagers to silent while in class. They are disruptive to the entire class, and detract from learning.

Students with disabilities will be provided reasonable accommodations. If you would like to request such accommodations because of physical, mental, or learning disability, please contact the ADA Coordinator for Program Accessibility at 837-8203, FH 112.

Tentative Lecture Outline

Date	Lecture topic
Aug 23	Introduction
Aug 25	Welcome to Graduate School, now what?
Aug 30	Your faculty and possible advisors
Sept 1	Research at Sul Ross
Sept 6	What are your degree options?
Sept 8	Resources as a grad student
Sept 13	Degree plans and Committees
Sept 15	Library resources
Sept 20	Scientific methodology
Sept 22	Discussion of sample field methods
Sept 27	Discussion of sample laboratory methods
Sept 29	Degree Plan Due
Oct 4	Statistics are not an option
Oct 6	Thesis time line
Oct 11	Preparing for Comps, they are not a rubber stamp...
Oct 13	Proposal Draft Due
Oct 18	Editorial Manuscript reviewing
Oct 20	Proofing and marks
Oct 25	CBE style manual
Oct 27	Punctuation and abbreviations
Nov 1	Scientific names, numbers, and measurements
Nov 3	Word usage: confusing and often misused and misspelled words
Nov 8	Grants

Nov 10	Curriculum Vitae
Nov 15	Professional Meetings
Nov 17	Proposal Presentations
Nov 22	Proposal Presentations
Nov 24	Nov 23-25 – Thanksgiving Holidays – No Class
Nov 29	What do I do after this? Life after grad school
Dec 3	Dead Day
Dec 5 – 8:00am	Final Exam for TR 9:30-10:45 – Proposal revision due

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.