

MATH 4390: Senior Project

Sul Ross State University
Spring 2024

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Course Description Directed individual studies in a mathematical topic of interest to the student. Emphasis on written and oral communication.

Mathematics Program Outcomes (1) The student will be able to demonstrate content knowledge of basic mathematical principles. (2) The student will be proficient in logic, able to negate statements, provide counterexamples to false statements, and determine the validity of arguments. (3) The student will be able to communicate mathematical content clearly and with valid reasoning.

Marketable Skills (1) Logical and analytical skills. (2) Problem-solving using analytic and algebraic methods. (3) Use of technology in problem-solving and presentation. (4) Communication and pedagogical skills.

Mathematics Program Outcomes The graduating student will be able to demonstrate content knowledge in mathematics including arithmetic, algebra, geometry, probability, statistics, and calculus.

Course Policies

Communication

I will post course documents, reminders, announcements, and assignments on the Blackboard system. You will also submit homework on Blackboard. I may also occasionally send announcements via e-mail. You should make sure you know how to access and use these tools. You are welcome to e-mail, telephone, or text me. However you chose to contact me, please make sure to state your name at the beginning of any message.

You are welcome to stop by my office if you wish to speak about the content or your progress in the course. Sometimes meetings come up, so it's best to contact me ahead of time if you intend to travel to Uvalde to see me in person.

I am here to help you! Ask questions in class, call me, e-mail me, text me, or come to my office. If you don't communicate with me, then I can't help you.

Reading and Participation

At the beginning of the semester, each student will select a mathematical topic to research. If you aren't sure what you'd like to research, I'm happy to meet with you to make suggestions. Once you have a topic selected, we'll form an agreed-upon reading list for you to begin researching your topic. We will keep in touch via the Discussion Board and meet periodically via web conference to discuss your progress.

Research Paper

You are required to write an expository paper. The purpose of such a paper is to inform, describe, or explain. Your paper should be based on your research topic. The thesis you focus on needn't encompass all the material you work through during the semester. In fact, it should be fairly narrow, so that your paper has a clear focus. But it should also be broad enough that you are able to write an entire paper on that topic alone.

Begin your paper by researching your topic. Your paper should make use of at least five cited references. Sources must be approved.

Oral Presentation

You will also be required to deliver an hour-long oral presentation based on your research paper. This can be thought of as a popular exposition. Your presentation should also make use of visual aids such as images, models, prepared diagrams, or demonstrations. We will tentatively schedule your presentations to take place during the last weeks of class, although we can be somewhat flexible in this regard. You can expect a modestly sized audience of math students and professors, and should be prepared to field questions from the audience after your presentation.

Timeline

Here is a tentative timeline for due dates. Subject to change.

Date	Assignment	Description
January 22	Topic Proposal	Propose topic to focus on. Notify me on the discussion board. Expect some back-and-forth. If you're not sure what you'd like to focus on, say that, but at least list your interests.
January 26	Topic Approval	Have a topic in hand.
March 2	Source List	Have a working list of sources finalized and be working on acquiring all sources.
March 7	Thesis Statement	See the expository paper guidelines for information on how to write a thesis statement. Submit your statement on the discussion board. Expect it to be modified somewhat.
March 28	Outline	See the expository paper guidelines for information on how to write an outline for an expository paper. Be as detailed as you can. Submit on the discussion board.
April 11	First Rough Draft	Submit a rough draft of your paper on the discussion board.
April 25	Second Rough Draft	Submit a second rough draft of your paper incorporating responses to feedback on your first draft.
May 3	Final Draft	Submit the final draft of your paper on Blackboard.

Your final draft should incorporate responses to feedback on your rough drafts.

TBA Oral Presentation Deliver your oral presentation before an audience of undergraduate students and mathematics faculty.

Rubrics

Grading rubrics will be provided for your convenience. These will be used to score your written paper and oral presentation.

Grading Policy

Your grades will be weighted as follows:

Participation	40%
Research Paper	30%
Oral Presentation	30%

Participation will be scored out of 40 points, distributed as follows:

Independent Study	10
Daily Participation	10
Source Narrative	5
Thesis Statement	5
Outline	5
Introduction	5
Total	40

The research paper and oral presentation will each be scored out of 20 points. The grading rubrics will be provided for your convenience.

A student who averages at least 90% will receive an A; at least 80% will receive at least a B; at least 70% will receive at least a C; at least 60% will receive at least a D.

University Statements

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 a 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.

SRSU Accessibility Services. *Sul Ross State University (SRSU) is committed to equal access in compliance with the 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 Mrs. Mary Schwartz Grisham, LPC, SRSU's Accessibility Services Director at 432-837-8203 or email mschwartz@sulross.edu. Our office is located on the first floor of Ferguson Hall, room 112, and our mailing address is P.O. Box C122, Sul Ross State University, Alpine, Texas, 79832.*

Counseling Services. *Sul Ross has partnered with TimelyCare where all SR students will have access to nine free counseling sessions. You can learn more about this 24/7/356 support by visiting [Timelycare/SRSU](https://www.timelycare.com/sulross). The SR Counseling and Accessibility Services office will continue to offer in-person counseling in Ferguson Hall room 112 (Alpine campus), and telehealth Zoom sessions for remote students and RGC students.*

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 Lobold and password. Librarians are a tremendous resource for your coursework and can be reached in person, by email (srsulibrary@sulross.edu), or by phone (432-837-8123).*

No matter where you are based, public libraries and many academic and special libraries welcome the general public into their spaces for study. SRSU TexShare Cardholders can access additional services and resources at various libraries across Texas. Learn more about the TexShare program by visiting library.sulross.edu/find-and-borrow/texshare or ask a librarian by emailing srsulibrary@sulross.edu.

Mike Fernandez, SRSU Librarian, is based in Eagle Pass (Building D-129) to offer specialized library services to students, faculty, and staff. Utilize free services such as InterLibrary Loan (ILL) and ScanIt to get materials delivered to you at home or via email.