

Sul Ross State University
Course Syllabus
MATH 3306-001: Math History
Spring 2022

Instructor: Dr. Angela Brown
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Office Hours: MW 10-12,2-5, others by appointment
Time and Place of Class Meetings: TBA

Mathematics Program Learning Objectives: The graduating student should be able to

- Apply knowledge of basic mathematics principles.
- Identify and provide valid proofs or solutions for theorems or problems.
- Recognize and dispute invalid mathematical statements by using counter-examples.

Course Objectives: To introduce students to a broad range of historical developments in mathematics. To be able to communicate mathematics through writing and presenting. To understand the role of civilization on mathematics. To gain a deeper appreciation of mathematical ideas.

Required Textbooks: Great Moments in Mathematics Before 1650 and Great Moments in Mathematics After 1650. These can be purchased as a PDF file at <https://bookstore.ams.org/DOL>. You need to purchase both books!

Checking out other math history books from the library is highly encouraged as well.

Other Equipment Needed: paper and pencils.

Grading Scale: 90-100 A, 80-89 B, 70-79 C, 60-69 D, 59-Below F

Grading Policy: The grade weighting will be as follows:

Homework: 30%
Midterm:20%
Paper: 30%
Final Exam: 20%

Reading Assignments and Homework: You will have daily reading assignments. These are to be read before you come to class and will be discussed the following class period. This discussion will be part lecture and part active participation.

After we have discussed the topics in class you will be assigned homework problems pertaining to that section. You will have at least a week to complete assigned problems.

Exam: We will have two exams, one midterm and one final. These are not comprehensive. No make up exams will be given. A missed exam will earn a grade of 0.

Paper: You will have one paper that you will write for the class. This paper will be 9-12 pages in length typed and double spaced with 1 inch margins. You will need at least 5 sources, only one of which is allowed to be a website. Wikipedia is not allowed as a source! Everything should be properly sourced. For mathematics the standard formatting is the AMS formatting. It is very closely related to MLA format which I will also accept. This paper should be submitted to me through Safe Assign on Blackboard. The topic can be anything that is relevant to the course. Your topic must be approved by me before writing your paper. Each paper must contain a famous theorem and proof or problem and its solution. The rubric for how the paper will be graded is as follows:

- Content and Structure 35%
- Theorem and proof/Problem with solution 30%
- Grammar 15%
- Correct bibliography 10%
- Length 10%

Any plagiarism will be grounds for an automatic zero in the course and will be reported for disciplinary action.

Americans With Disabilities Act: 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. Alpine students seeking accessibility/accommodations services must contact Mary Schwartze Grisham, M.Ed., LPC, 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 mschwartz@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, SUI Ross State University, Alpine. Texas, 79832.

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).

Distance Education Statement: Students enrolled in distance education courses have equal access to the university's academic support services, such as Smarthinking, 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 information to verify students' identities and to protect students' information. The procedures for filing a student complaint are included in the student handbook. 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.

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.

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.

Important Dates:

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| January 10 | First Day of Classes |
| January 13 | Last Day for Late Registration and Schedule Changes |
| January 17 | MLK Holiday |
| January 26 | 12th Class Day |
| March 7-11 | Spring Break |
| March 28 | Last Day to Withdrawal from University or Drop Classes with a Grade of "W" (by 4 pm) |
| April 27 | Last Day of Classes |
| April 28 | Dead Day |
| April 29, May 2-4 | Final Exams |
| May 6 | Commencement |

Tentative Schedule-Subject to Change

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| Week | | |
| Week 1 | Introduction and Early Numbering Systems | Early Numbering Systems |
| Week 2 | Pythagorean Theorem | The first Crisis and the Resolution |
| Week 3 | Axiomatizing Math | Euclid's Elements |
| Week 4 | Archimedes | A Boost From Astronomy |
| Week 5 | Number Theory | Algebra |
| Week 6 | Early Computing | The poet Mathematician |
| Week 7 | Test 1 | Fibonacci |
| Week 8 | Cardano and Tartaglia | Napier and Logarithms |
| Week 9 | Galileo and Kepler | Probability |
| Week 10 | Calculus | Series |
| Week 11 | Non Euclidean Geometry | Non Commutative Algebra |
| Week 12 | Set Theory | Axiomatic Systems |
| Week 13 | Metamathematics | Four Color Conjecture |
| Week 14 | Four Color Conjecture | Exam 2 |
| Week 15 | Presentations | |