Sul Ross State University
Course Syllabus
MATH 3305-001,H01, H02, H03, V01: History of Mathematics
Fall 2023

Instructor: Dr. Angela Brown
Office Number: ACR 107B
Office Telephone Number: (432)837-8223
Email Address: abrown4@sulross.edu
Office Hours: 10-12 and 2-5 M, 10-11 T, 2-5 W, 10-11 R, others by appointment
Time and Place of Class Meetings: TR 4:30 pm-5:45 pm ACR 206, Eagle Pass B-112, Uvalde B114C, Del Rio 109

Course Prerequisites: Passing grades in MATH 2413 with a D or better

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.

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.

Marketable Skills

- Students demonstrate logical and analytical skills.
- Students demonstrate problem-solving using analytical and algebraic methods.
- Students use technology in problem-solving and presentation.
- Students use communication and pedagogical skills.

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! They should be in our bookstore as well.

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: 20%
Midterm:10%
Paper: 25%
Project: 25%
Final Exam: 10%
Participation: 10%

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. You will be required to present certain problems in class as part of your participation grade.

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.

Exams: 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. No two students can pick the same topic, so I will post topics as they are chosen. 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. The paper will be due on **November 2, 2023**.

Project: Projects will be presentations on a topic of the students choice pertaining to math history. Topics must be approved by the instructor. Again, there cannot be a repeat of topics including those already written up for the paper and topics taken will be posted. These presentations are allowed to be power point type presentations, but they should have a creative slant to them. In other word, make them interesting and entertaining! The projects will be presented the last few class days and should be 20-30 minutes long. You should have your sources given at the end of your presentation just as you do for a paper. The project will be graded as follows:

- Content/Historical Accuracy 50%
- Creativity 20%
- Grammar 10%
- Correct bibliography 10%
- Length 10%

Attendance Policy: Students are expected to attend every class. If class must be missed, the student is expected to get the notes from a classmate, and to check with me or on Blackboard for announcements and updated assignments.

Students are expected to arrive to class on time. If a student is perpetually late, they will be asked to not attend class unless they arrive on time. If tardiness becomes a problem for the class as a whole, people who arrive late will not be permitted to enter the class. If this stricter policy becomes necessary, there will be an announcement made in class.

If for some reason you need to leave class early, please inform me before class. If you leave class for the day without permission, then an in class assignment will more than likely be given that you cannot make up. If you need to go to the restroom during class, please do so quietly. You will not be allowed to go to the restroom during a quiz or exam.

It is policy of the university to drop a student with a grade of "F" if 9 hours or more of class are missed. For this course that would be 6 or more class sessions missed.

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 mschwartze@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.

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.

Library Services: 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 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.

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:

August 28	First Day of Classes
August 31	Last Day for Late Registration and Schedule Changes
September 4	Labor Day
September 13	12th Class Day, Last day to drop a course without creating an academic record
November 17	Last Day to Withdrawal from University or Drop Classes with a Grade of "W" (by 4 pm)
November 22-24	Thanksgiving Holiday
December 6	Last Day of Classes
December 7	Dead Day
December 8, 11-13	Final Exams

Tentative Schedule-Subject to Change

	Tuesday		Thursday
Aug 29	Introduction and Early Numbering Systems	Aug 31	Early Numbering Systems
Sept 5	Pythagorean Theorem	Sept 7	The first Crisis and the Resolution
Sept 12	Axiomatizing Math	Sept 14	Euclid's Elements
Sept 19	Archimedes	Sept 21	A Boost From Astronomy
Sept 26	Number Theory	Sept 28	Algebra
Oct 3	Early Computing	Oct 5	The poet Mathematician
Oct 10	Test 1	Oct 12	Fibonacci
Oct 17	Cardano and Tartaglia	Oct 19	Napier and Logarithms
Oct 24	Galileo and Kepler	Oct 26	Probability
Oct 31	Calculus	Nov 2	Series
Nov 7	Non Euclidean Geometry	Nov 9	Non Commutative Algebra
Nov 14	Set Theory	Nov 16	Axiomatic Systems
Nov 21	Metamathematics	Nov 23	Thanksgiving
Nov 28	Four Color Conjecture	Nov 30	Presentations
Dec 5	Presentations		

Final exam: Monday, December 11, 3:00-5:00