MAT 346 History of Mathematics

Syllabus | *DR. R. L. HERMAN* | FALL 2025

Instructor

DR. R. L. HERMAN

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Course Description

Development of mathematics from earliest systems to present century. Personalities involved with the contributions of each. A problem-study approach to give the student some training in research.

Course Content

Required Texts: Dunham, William, *Journey through Genius*, Penguin Books, 1990.

Stillwell, John, *Mathematics and Its History*, 3rd Ed., Spring, 2010.

Other Readings: `http://people.uncw.edu/hermanr/mat346/readings.htm`

Goals

The primary goal of MAT 346 is to provide an overview of the major periods and historical development of mathematics within a cultural context. Through extensive reading, writing, and problem-solving using historical methods, students will develop skills for thoughtful investigation and communication of mathematical ideas. Students will investigate and research historical mathematical topics and present the results of mathematical scholarship in both written and oral formats.

Students have opportunities to investigate mathematical ideas through literature searches. Students will draft, revise, and submit multiple stages of written and oral reports during the semester. Products include multipage article summaries, problem solutions with correct typesetting, an expository paper of moderate length, and a short oral presentation, each with appropriate citation of sources.

Student Learning Outcomes

- Through a series of drafts and revisions, use instructor feedback to produce a written product that reflects knowledge and understanding of the historical development of mathematics.
  (WI 1, 2; CR 4)
  - Develop skills in effectively locating, analyzing, and utilizing current and relevant resources for mathematical scholarship. (WI 1; IL 1, 2)
  - Demonstrate competence in independent reading, analysis, and evaluation of mathematical materials and resources. (WI 1; IL 2)
  - Develop skills in writing and presenting mathematical arguments in an organized, logical, and coherent form. (WI 2)
  - Demonstrate understanding of ethical standards for citation and use of mathematical ideas. (IL 3, 4; WI 1)
- Review, structure, and apply mathematical knowledge to solve a variety of mathematical problems using historical methods and techniques. (CR 1, 2)
- Organize and deliver a mathematical presentation that reflects knowledge and understanding of the historical development of mathematics.
  (IL 4; CR 4)
- Understand the mathematics of various different civilizations, their conception and use of mathematics, and how the historical conditions of those civilizations affected and were affected by mathematics. (CR 3)

Web Pages/Email

This syllabus as well as a variety of other relevant information for this class is posted on the internet. The website is located at

`http://people.uncw.edu/hermanr/mat346/`

You are encouraged to log onto this page often to check the assignments, read text material, listen to videos, and read about related topics and further examples. You will need to continually watch for additions, changes, and announcements for the class. So, make it a daily habit to go to the web site and read something different.

Advice for Success

In order to learn the material in this course and earn a good grade, you need to put in some effort. Do not put off assignments or reading. If you do not understand something, ask the instructor. Come to office hours, use the email, ask knowledgeable students, or go to the library/internet and find supplementary material. Additional material will be placed at the course website: `http://people.uncw.edu/hermanr/mat346/` You are expected to not only listen to the lectures, you need to read the texts and additional materials provided.

Course Requirements

Assignments: Assignments will be collected on a regular basis and you will be told when the work is due. As doing homework is very important for learning the material in this course, it will count as 30% of your grade. Late homework is subject to a 10% penalty.

Papers and Presentations: There will be opportunities to investigate mathematical ideas and people and write papers and do a short presentation. These will make up 30% of the course grade.

Attendance: YOU ARE EXPECTED TO ATTEND ALL OF THE CLASSES! After three excused absences there will be a penalty of 2% for each absence from your total grade.

Exams and Grades: There will be two exams in this course. Each exam will cover roughly 50% of the course material. The tentative dates for the exams are below. Also, we will have presentations during the final slot.

Exams	Date
Exam I	Sep 30
Exam II	Nov 18
Presentations	Dec 11, 8-11 AM

Your final grade will be based on the following distribution

Homework	30%
Exams	40%
Paper	10%
Final	20%

and grade scale

90-100	A
80-89.5	B
70-79.5	C
60-69.5	D
0-59.5	F

Plus-minus grading may be used in special cases.

This syllabus is subject to change!

Artificial Intelligence Use Policy

Core Principles

Learning to use AI responsibly is an essential skill. You are encouraged to explore AI tools for brainstorming, idea generation, and research assistance while maintaining academic integrity and developing critical thinking skills.

Permitted Uses

- **Small assignments:** AI may be used for brainstorming, drafting, and iterative improvement
- **Research projects:** AI may assist with literature review, organizing ideas, and refining arguments.
- **All uses:** Must be properly disclosed and attributed.

Requirements and Responsibilities

Attribution: All AI use must be acknowledged at the end of your submission. Include:

- Which AI tool(s) you used and how key prompts generated useful content.
- A brief description of how AI-generated material was incorporated or modified.

Verification: You are responsible for fact-checking all AI outputs. AI systems frequently generate inaccurate information and fake citations. Cross-reference all claims with reliable sources.

Quality Control: Effective AI use requires skillful prompting and critical evaluation. Minimum-effort prompts produce low-quality results that may harm your work.

Prohibited Practices

- Submitting AI-generated work as your own without attribution.
- Using AI-generated citations without verification.
- Relying on AI for factual claims without independent confirmation.

Academic Integrity Failure to properly attribute AI use violates university honor code policies. While AI can enhance your work, it cannot replace your critical thinking, analysis, and original contribution to the assignment.

Academic Honor Code: All members of UNCW's community are expected to follow the academic Honor Code. Please read the UNCW Honor Code carefully (as covered in the UNCW Student Handbook). Academic dishonesty in any form will not be tolerated in this class. Please be especially familiar with UNC-W's position on plagiarism as outlined in the UNCW Student Handbook. Plagiarism is a form of academic dishonesty in which you take someone else's ideas and represent them as your own.

Student Disabilities: UNCW Disability Services supplies information about disability law, documentation procedures and accommodations that can be found at `www.uncw.edu/disability`. To obtain accommodations the student should first contact Disability Services and present their documentation to the coordinator for review and verification.

Campus Respect Compact. UNCW has recently instituted a Respect Compact to affirm our commitment to a civil community, characterized by mutual respect. That Compact will soon be affixed to the wall of each classroom and can be accessed at: `https://uncw.edu/about/know-us/respect-compact`.