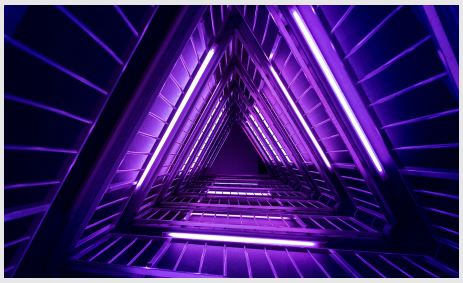

Capstone Seminar

MAT 401

Prereq: C or better in both MAT 261 and MAT 262, and senior standing.

Professor

D. Bradley

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https://umaine.edu/mathematics/david-bradley/

Class Meetings

Mon., Wed. & Fri. through May 1

11:00 a.m. – 11:50 a.m.

Neville Hall, Room 421

Office Hours

Mon., Wed. & Fri. through May 1

TBA

https://tinyurl.com/ProfBradley-OfficeHour

Mandated Policy Declarations

Required Syllabus Statements

Overview

MAT 401 is the senior capstone seminar required of all mathematics and statistics majors. Participants will draw upon and integrate their prior mathematics course work by exploring mathematical topics in their historical and scientific context. The main requirements are to write a paper on the topic under investigation and give a 20-minute in-class talk using prepared slides. Faculty and students not currently enrolled in MAT 401 are invited to attend the 20-minute talks. You may also be asked to present a poster at the UMaine Student Symposium on April 17. The Symposium is open to the public: faculty, staff, and students from UMaine and other campuses, sponsors, legislators, and business leaders will be in attendance.

Reference Material

Textbook: There is no textbook. Locating suitable source material for your paper and presentation is one stage in the preparation process.

Reference material should include at least one published journal article, but may be supplemented with material from other sources, including conference proceedings, arXiv preprints, Master's or Doctoral theses, mathematics monographs, textbooks, and biographies.

A list of possible topics, some reference material, a sample slide presentation, and a draft capstone paper are provided in Brightspace.

Course Goals

- Hone skills needed to read, understand, and communicate mathematics in multiple formats.
- Investigate a topic in mathematics that interests you, and teach the rest of us what you learned.
- Write a paper summarizing your findings.
- Present a poster at the UMaine Student Symposium.
- Give a 20-minute in-class talk accompanied by projected slides.

Learning Objectives

- Develop skills needed to search the mathematics literature and evaluate sources for their suitability.
- Become familiar with library resources.
- Acquire proficiency with LaTeX for typesetting papers, posters, slides, and other documents.
- Explore a topic in depth and discover how different areas of mathematics connect with each other and other disciplines.
- Strengthen habits of correctness and precision via technical writing.
- Gain confidence, valuable public speaking skills, and the ability to explain ideas in a supportive learning environment.

Expectations

Innovative problem-solving, thoughtful writing, and well-rehearsed presentations are expected. Meeting preparation goalposts along the way, and contributing constructive feedback on each other's work is also expected. Please plan to attend regularly and actively participate during class meetings scheduled for sharing progress unless ill or isolating/quarantining due to potential exposure to contagious disease. Although an occasional request for a moderate extension on a deadline will ordinarily be granted, I regret being unable to accept multiple submissions of late work or requests to reschedule presentations, especially as the end of the semester approaches.

Assessment

Grades will be based on in-class participation and assigned work.