

Introduction to Abstract Mathematics**Instructor:** Dr. Ryan C. Daileda

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URL: <http://www.trinity.edu/rdaileda>**Time and Place:** MWF 9:30 - 10:20 AM, Marrs McLean Science Building (MMS), Room 140**Office Hours:** MW 3:30 - 5:30 PM, TR 9:30 - 11:00 AM, F 2:00 - 3:00 PM, and by appointment**Course URL:** http://www.trinity.edu/rdaileda/abstract_math**Prerequisites:** Math 1308 or 1312 (Calculus B or Calculus II)

Course Content: This class is first and foremost a course in logical reasoning and communication, emphasizing the notion of mathematical proof. We will begin with an introduction to structured logic and set theory, including the fundamental techniques used for proving mathematical statements. From there we will cover selected topics in abstract algebra, real analysis and point set topology.

Expectations: Each student is expected to invest a significant amount of work and thought outside the classroom for every hour of lecture. Moreover, work submitted for a grade in this course will be graded in a most rigorous fashion, and consequently, such work should have a great deal of thought and care put into it. Work which is sloppy or messy or that which is not written in a clear and coherent fashion will be marked down. This includes losing points for grammatical errors, spelling mistakes and similar offenses.

This course is a gateway course to many upper-division mathematics courses, including Number Theory, Combinatorics, Non-Euclidean Geometry, Abstract Algebra, and Real Analysis, and the high level of work that will be expected in this course is to ensure that students who pass this course have the best opportunity for success in future math courses.

Homework: Homework assignments will be due daily at the beginning of class unless otherwise stated. Homework assignments will be posted on the web page after every lecture with a due date of the **next** class period. Except for extreme circumstances, late homework will not be accepted for any reason, and unexcused late and missing papers will be given a grade of zero (0). Homework exercises are to be written neatly using one side of 8.5×11 inch paper, and multiple pages must be stapled together before you come to class. Each problem must be done on its own page, and each page should contain the student's name, the date, and the problem number. Do not use paper from a spiral notebook unless you can tear off the ragged edge.

Collaboration is a very important part of mathematics, and I encourage everyone to work together on homework assignments. That being said, it is never acceptable to simply pass off someone else's work or ideas as your own. Therefore, you must cite sources on any work that is to be turned for a grade, whether it is from a textbook or from another student in class. Citing sources and giving credit to others for their ideas is a crucial part of any higher level of education, and this rule is not to be taken lightly, but also understand that you will in no way be penalized for quoting a textbook or getting a proof idea from a classmate as long as everything is cited properly.

Projects: In addition to daily homework, there will be a small number of projects assigned throughout the semester. Each project will be announced and discussed in class, with the details being posted to the course web page.

Exams: There will be three evening midterm exams during the semester as well as a cumulative final exam. The dates, times and locations for the midterms exams will be announced in class and posted online at least a week in advance. If you have a legitimate conflict with the announced exam times, please contact me as soon as possible. Please do not wait until shortly before the exam. The final exam will be given in the regular classroom on Wednesday, December 16, from 12:00 to 3:00 PM.

Grades: Your overall score in the course will be based upon your scores on the homework, projects, midterm exams, and the final exam. The contributions of each are as follows:

Homework	30%
Projects	10%
Midterm Exams (3)	12% (each)
Final Exam	24%

Your letter grade will be determined by your overall percentage at the semesters end, as well as by how well the class performs overall, i.e. *there will be a grading curve*. So you can gauge your performance throughout the semester, cutoffs for major grades (A, B, C, D, F) will be determined for each exam and announced in class.

Attendance: Attendance is highly encouraged but is not mandatory. Roll will not be taken, but excessive absences should be explained to me.

Use of Previous Exams: Students are permitted to obtain and study exams given in previous offerings of this course. I will (upon request) gladly provide access to copies of exams I have given in the past. However, **previous exams should not be used to judge the content or difficulty of the exams that will be given in this course.**

Academic Integrity: All students are covered by the Trinity University Honor Code that prohibits dishonesty in academic work. Under the Honor Code, a faculty member will (or a student may) report an alleged violation to the Academic Honor Council. It is the task of the Council to investigate, adjudicate, and assign a punishment within certain guidelines if a violation has been verified.

Students who are under the Honor Code are required to pledge all written work that is submitted for a grade: “On my honor, I have neither given nor received any unauthorized assistance on this work” and their signature. The pledge may be abbreviated “pledged” with a signature.

The specifics of the Honor Code, its underlying philosophy, and the norms for sanctioning can all be found on the Academic Honor Council website, accessed through the Trinity Homepage:

http://www.trinity.edu/departments/academic_affairs/honor_code/

Special Needs: If you have a documented disability and will need accommodations in this class, please speak with me privately early in the semester so I may be prepared to meet your needs. If you have not already registered with Disability Services for Students, contact the office at 999-7411. You must be registered with DSS before I can provide accommodations.