Professor: Matthew Neal (nealm@denison.edu)
Class time: MWF 8:30-9:30, T 8:30–10:20am
Office and phone: Olin 202 (6288)
Office Hours: MTWRF 10:30-11:30, TR 1:30 - 5 or by appointment
Web site: http://personal.denison.edu/~nealm/

Course

This is a course in proving mathematical statements. We will learn how to do this and then apply what we have learned to problems in number theory, topology, and calculus.

Book

How to read and do proofs, 4th edition by Daniel Solow + Handouts on number theory and topology

Grades and Expectations

The grade will be calculated with the following weights:

- 15 % for each of three tests
- 15 % for the final exam
- 20 % for weekly homework assignments
- 20 % Tuesday lab

Grade Scale: 90-100 A 78-89 B 66-77 C 50-65 D 0-49 F
Tests will occur every 4 weeks on Wednesdays. The final will take place on Mon. December 11, 6:30-8:30 p.m. in our classroom. Late homework work or tests will not be accepted unless there is a doctors note or a REALLY good excuse. You are expected to work 10 hours a week outside of class on this course.

Homework

Homework will be assigned each Wednesday and due the following Wednesday. Each homework problem is worth 10 points. If you do not get the proof exactly right you will receive 8 points or less. You may rewrite any problem and turn it in with the next weeks assignment to be re-graded for a maximum of 9 points credit. All homework after the second week must be written in \LaTeX (see below) or suffer a 10 % penalty.

Lab

In the lab portion of the course you will learn \LaTeX (a typesetting language), Maple (software for solving math problems) and give 3 mathematical talks. You will have one ungraded \LaTeX assignment and one graded Maple assignment. Talk 1 will be on a topic from Calculus I or II (picked out of a hat) which you will “teach”. The point of this is to learn the basics of giving a talk. Talk II and III will be on a new topic that you are responsible to find. You are required to meet with me for approval on topics for the 2nd and third talks. I will provide a list of topics, websites and books to aid your search. Talk II should be geared towards a moderately mathematically educated audience (like you are giving a talk at an undergraduate Math conference). Talk III should be geared towards an audience with little mathematical education (like a presentation at a board meeting-our class will roleplay). These will be graded on criteria from a standard form that I will hand out. You will also critique other students talks (we will assign this) and four talks outside class (you must find these). These critiques are graded for effort only. See the Lab syllabus for more info.

Office Hours

Please come to office hours so I can get to know you better!
Disabilities

Any student who feels he or she may need an accommodation based on the impact of a disability should contact me privately as soon as possible to discuss his or her specific needs. I rely on the Academic Support and Enrichment Center in 104 Doane to verify the need for reasonable accommodations based on documentation on file in their office.