MATH 332
syllabus
Fall, 2009

Professor:	Matthew Neal (`nealm@denison.edu`)
Office and phone:	Olin 202 (6288)
Office Hours:	M 1:30-3:30 R 1-4:30 F 1-4 or by appointment
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Book

Thomas Hungerford's *Abstract algebra: an introduction (2nd edition)*

Course

This is a first course in abstract algebra. We will study rings, fields, groups and vector spaces. These are all abstractions of various concrete algebraic systems, some of which you know and some of which you don't. The first purpose of this course is to teach abstract thinking, i.e. the capacity to analyze what properties are jointly true of many concrete structures and set it in a general framework for which the motivating examples are only special cases. The second goal is to teach proof creation. This involves the creativity and insight to discover and prove interesting mathematical truths as well as rigorous and precise logical communication of your ideas. This is NOT an applied course. However, these algebraic systems are central to particle physics, modern coding theory, and an understanding of solutions of differential equation models. They also form an essential language for higher mathematics. We will study Chapter 2 - 7 in the book plus some supplementary material on Linear algebra.

Audience

This course is intended for students who have taken Math 210

Grades and Expectations

50 % of your grade is based on take home problem sets. Every Monday you will receive a set of problems concerning the new week's material that will be turned in (in Latex) on the Tuesday morning of the week after they are assigned. YOU MAY NOT TALK TO ANYONE ABOUT THESE PROBLEMS EXCEPT ME. YOU MAY NOT CONSULT ANY OUTSIDE MATERIALS OTHER THAN YOUR BOOK AND CLASS NOTES. There will be 13 assignments.

20 % of your grade is based on class participation. On certain weeks, each class member will be assigned 2 problems on Monday that are separate from the written homework. I will ask you to present the solution of one of these to the class on either the following Thursday or Friday. I will award a score out of 10 for each presentation and average your scores at the end of term. If you are stuck, I will ask the class to help me finish it. We not present on the study break week.

30 % of your grade is based on a midterm and Final. The midterm will be given in class over Thursday and Friday of the study break week. The Final will be in class on Friday, December 18th at 9 a.m. Both tests are drawn from problems, theorems, and definitions presented or in class (including student presentations) and anything in the text portion of the sections covered in the book.

I will determine the cutoffs for grades at the end of the course. Every so often, I'll hand out an approximate grade to show you how you are doing.

You are expected also to read the sections in the book to be covered before my lectures on Mondays and Wednesdays.

Late Work

Late homework will receive a 20 % point penalty per day late unless there is a written note (such as a note from Whistler) that verifies a VERY strong excuse (such as illness or important sports team events).

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.

Academic Integrity

The students and faculty of Denison University and the Department of Mathematics and Computer Science are committed to academic integrity and will not tolerate any violation of this principle. Academic honesty, the cornerstone of teaching and learning, lays the foundation for lifelong integrity.

Academic dishonesty is, in most cases, intellectual theft. It includes, but is not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for evaluation. This standard applies to all work ranging from daily homework assignments to major exams. Students must clearly cite any sources consulted, not only for quoted phrases but also for ideas and information that are not common knowledge. Neither ignorance nor carelessness is an acceptable defense in cases of plagiarism. It is the students responsibility to follow the appropriate format for citations.

Proposed and developed by Denison students, passed unanimously by DCGA and Denisons faculty, the Code of Academic Integrity requires that instructors notify the Associate Provost of cases of academic dishonesty, and it requires that cases be heard by the Academic Integrity Board. Further, the code makes students responsible for promoting a culture of integrity on campus and acting in instances in which integrity is violated.

For further information about the Code of Academic Integrity see http://www.denison.edu/about/integrity.html