

MODERN ALGEBRA II

Class Website: www.math.uh.edu/~tomforde/Math6303SI7.html

On the course website you will find the homework as it is assigned, as well as a copy of this syllabus, exam dates, and announcements as they are made.

Course Description

This is the second course in the two-course sequence Math 6302--Math 6303, which serves as an introduction to abstract algebra at the graduate level. Topics covered throughout the sequence include Groups, Rings, Fields, and Modules. The Math 6302 -- Math 6303 sequence covers the relevant material for the Algebra preliminary exam in our mathematics department's graduate program. The material in the course will be self-contained in the sense we will not assume prior exposure to any specific content; however, it will be assumed that students possess some mathematical maturity and are comfortable with writing proofs.

Instructor

Dr. Mark Tomforde
Office 601 PGH
www.math.uh.edu/~tomforde

Class Meetings

MWF 10:00–10:50AM
Room AH 2

Prerequisites

Mathematical maturity and experience writing proofs. A prior course in Group Theory is useful, but not essential.

Office Hours

Mondays 11:00AM–11:50AM
Fridays Noon–12:50PM

I encourage you to come by my office if you have questions, need help with homework problems, or want to talk about the material.

Objectives

Modern Algebra (with Analysis and Topology) is a cornerstone of modern mathematics. The Math 6302 --Math 6303 is designed to equip you with the fundamental notions of abstract algebra that are ubiquitous throughout all of pure and applied mathematics.

Textbook

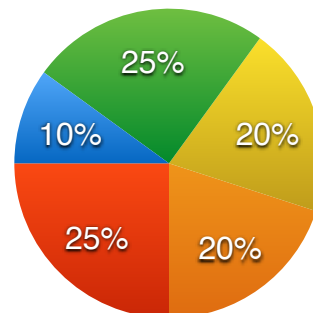
There is no required text, and notes taken in lecture will be sufficient to learn the material and complete assignments. If you feel more comfortable having a book, I suggest the following, which is a good reference with many examples:

Abstract Algebra, 3rd Ed., by David Dummit and Richard Foote.

Grading

Your final grade for the class will be determined as follows:

- Class Participation 10%
- Homework 25%
- Exam 1 20%
- Exam 2 20%
- Final Exam 25%



Class Participation

Class participation is based on attendance and how engaged you are in class meetings. It is vital to attend every class meeting and pay attention, particularly since lecture material will be the source for your notes. If you have to miss class for school approved reasons (e.g., school sponsored events, major religious holidays) you need to let me know as soon as possible, and prior to the missed class, for it to not count against your grade. Please keep in mind that class participation is 10% of your final grade, which is significant; a 10% difference in your final score in the class can change your grade by an entire letter grade or more (e.g., an A- to a B-, or a C+ to a D+).

Homework

Homework problems will be posted regularly on the course website. You will be asked to turn in some problems to be graded. There will also be problems that do not need to be turned in, but which you should do for your own benefit. You are encouraged to discuss homework problems with others, but the write-up should be done by you alone and in your own words. When turning in homework to be graded, please adhere to the following policies.

Homework Policies

- **All proofs should be written in “Claim . . . Proof . . .” format as described in the first assignment.**
- **Homework is due at the beginning of class on its due date. Late homework will not be accepted for any reason. Homework is late once I have started lecturing.**
- **Homework without a name will not be accepted.**
- **Homework will not be accepted by email.**
- **Homework should be written legibly and on only one side of the paper. Leave enough room for comments.**
- **Homework should be stapled in the upper-left-hand corner.**
- **Homework should be written on standard-sized paper (8.5" x 11"), with no “fringe” down the side as a result of the paper having been torn out of a spiral notebook**
- **Homework solutions should be presented sequentially in the same order they are assigned (e.g, solution to problem 1 first, solution to problem 2 second, etc.).**
- **Homework not picked up within two weeks of when it is returned will be discarded.**

Points will be deducted from homework for each infraction of the above policies.

Written Proofs

It is expected that you will be proficient in reading and writing proofs. **On graded homework and exams, proofs should be written in “textbook style”, and you should consider proofs as writing assignments. In particular, your proofs should contain complete sentences, proper spelling and grammar, correct English usage, and follow the conventions of mathematics writing.** Proofs will be graded on both style and the ideas contained in them. In addition, proofs will be evaluated to the degree that they are **Correct, Clear, and Concise.**

Exams

There will be two exams and one final. All will be take-home, and you will have approximately one week to work on each.

Exam 1: Due Wednesday, February 15 at the beginning of class.

Exam 2: Due Wednesday, March 29 at the beginning of class.

Final: Due Monday, May 8 at 11AM.

You are allowed to use your notes on exams, but you are not allowed to use any books, the internet, or talk to anyone other than the professor about the exam.

Makeup Policy

Not turning in exams or homework on time results in a score of zero, and you will not be allowed to make up the work. Exceptions may be made in the case of extreme circumstances, such as a documented, serious illness.

Honor Principle

University of Houston students are expected to adhere to the Academic Honesty Policy as described in the Student Handbook. In this course this shall mean the following: **Exams shall be worked on independently and without the use of any books, the internet, or the help of any person other than the professor. Homework may be discussed with others, but the write-up must be done on the student's own and in the student's own words, without the help of other people or outside sources. If you are aware of anyone who is cheating or receiving unfair outside assistance, you are honor bound to inform the professor of what is occurring, and will be considered an accomplice if you do not.** Anyone caught cheating will receive a failing grade in the course and be turned over to the department chair and dean for further disciplinary action.

Classroom Environment

As your professor, I hold the fundamental belief that everyone has a right to learn and deserves unrestricted access to education. I also believe that everyone in this class is fully capable of mastering the material. I value diversity, social justice, inclusion, and equality. I am therefore committed to creating a classroom environment that welcomes all students, regardless of race, gender, social class, religious beliefs, etc. If there is anything causing barriers to your inclusion or achievement, please come talk to me. Likewise, any student with a disability or chronic health problem should talk to me about the types of assistance that might be offered.

No Class

There will be no class on February 24 and April 7, because I will be out of town at conferences.

Important Dates

The following are some important dates you should keep in mind:

January 16, Martin Luther King Day

January 17, First Day of Classes

January 24, Last Day to Add a Class

February 1, Official Reporting Day (ORD), Last Day to Drop/Withdraw without Receiving a Grade.

February 15, Exam 1 (due at the beginning of class)

February 24, No Class, Dr. Tomforde is out of town at a Conference

March 13—18, Spring Break, No Class

March 29, Exam 2 (due at the beginning of class)

March 31, Last day to Drop/Withdraw with a W grade.

April 7, No Class, Dr. Tomforde is out of town at a Conference

May 1, Last Day of Classes

May 8, Final Exam (due at 11AM)