# Math 4/5/7330 — Fall 07 — Course Outline

Welcome to Abstract Algebra! We will explore the structural basis for the classical algorithms used to solve algebraic equations, especially those with applications to geometry and the theory of numbers. Altho this material is indeed abstract, our approach will be rooted in the historical development of the subject, and hence maintain contact with the concrete.

## Text and syllabus

We will use *Abstract Algebra*, by Ron Solomon. Ron is both a first-rate algebraist and a superb writer. The book is a joy to read — but that is not to say that it is an easy read! We will be discussing deep ideas.

Chapter 0 is preliminary material. Altho we will cover this in class, it should be familiar to you. If it is not then you should review this in more depth on your own. I can help you find good review books for you.

Chapters 1–8, 10–12, and 16 are the core material, required of everyone.

Chapters 9 and 13 are supplementary, for students to read on their own. All of the exercises and exam questions from these chapters will be required for the grad students but extra credit for the undergrads. If you are an undergrad math major intending to go on to grad school then I strongly recommend you do this extra credit.

## Calendar

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| *Labor day* | Mon | 3 Sep | |
| *Last day to drop* | Tue | 4 Sep | |
| Exam 1: Chap 0–3 | Thu | 20 Sep | |
| *Fall break* | Mon–Tue | 15–16 Oct | |
| Exam 2: Chap 4–9 | Thu | 25 Oct | |
| *Last day to withdraw* | Fri | 26 Oct | |
| *Veteran's day* | Mon | 12 Nov | |
| *Thanksgiving* | Wed–Fri | 21–23 Nov | |
| Exam 3: Chap 10–13, 16 | Tue | 4 Dec | |
| Final Exam: all chapters | Thu | 13 Dec | 10:15–12:15 |

## Exercises

Almost every day there will be some exercises due, worth 5 points each. Your 20 best exercises count towards your final grade.

I encourage you to work together. You may well learn a lot more from each than than from me. However, the work you turn in must be your own — in your own words! If your work duplicates that of a classmate then you will both be guilty of cheating, and you will both receive a grade of F for the entire course.

## Quizzes and exams

At least once each week, perhaps more often, we will have a 10-point, multiple-choice quiz based on the assigned reading. These scores will not count towards your final grade. However, similar multiple-choice questions will appear on the exams.

There will be three midterm exams and a comprehensive final exam, each worth 100 points.

## Grades

Your grade will be determined by the following minimum percentages: 85%: A    75%: B    65%: C    55%: D. I will award "plus" grades only for those students who do extra credit. I will not give "minus" grades.

Finally, please note that instructors are no longer allowed to give an IW grade. If you do not withdraw by Friday, 26 October, then you will receive a grade in this course.