MAT 330: Abstract Algebra

Time: 11:30–12:30 MWF

Place: Olin 107

Professor: Dr. Anne Collins

office: Olin 114
phone: x5405
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class page: on webCT, http://webct.centre.edu/
office hours: MTWRF 10:00–11:00am, TR 3:00–4:00pm

Textbook: *Contemporary Abstract Algebra, 6th edition*
Author: Joseph Gallian

Exams: There will be three Exams and a Final:

Exam 1	Wednesday, October 1
Exam 2	Monday, October 27
Exam 3	Wednesday, November 19
Final Exam	Tuesday, December 9, 8:30am

Grades: Your grade will be broken down as follows:

25%	quizzes, homework, participation
50%	exams (3)
25%	final

I aim for a 90-80-70-60 scale, but these cutoffs are a bit fuzzy, and I reserve the right to move them when appropriate.

Course Description: Abstract Algebra has many modern applications, from quantum physics to code-breaking to MC Escher's tessellations. Building on the algebra that you are familiar with, we begin our study of abstract algebra with the question: What properties do the integers have? We know how to add and subtract two integers; we know that the sum of two integers is always another integer; we know that $x+0=x$, $x-x=0$, and $x+y=y+x$ for any two integers x and y. But there are many other collections, or *groups*, of objects with these same fundamental properties — for example, the set of $\mathbb{R}$eal numbers, the symmetries of a square, or the possible seating arrangements in a classroom. In mat330, we will cover chapters 0-11 in the text as we investigate the behavior of such groups.

Homework: Homework problems will be assigned each day and posted on the syllabus on the course web page. Homework is to be handed in the following class period, unless otherwise indicated. Homework will *not* be accepted late for any reason, so if you must miss class, send your homework with a classmate. You are allowed to drop three(3) homework assignments during the term.

Dailies: At the beginning of each class, there will be a short daily quiz based on the homework and reading assignments. Dailies will typically be short computational problems, or definition and theorem statements. You will not be permitted to make up a missed daily for any reason, so I recommend that you show up for class and make it on time. You can drop three(3) daily scores during the term. Note that this allows for up to three absences due to college sponsored activities, but does not constitute permission to simply skip class.

Participation: Obviously, attending class is a big part of this – it's kind of hard to participate if you're not there... thus an excessive number of absences will adversely affect your grade. But I also expect you to be attentive, engage in discussions, ask and answer questions, do the readings and homework assignments, and be respectful of others – this includes turning off your cell phone before class begins!

Technology: LaTeX is a mathematical typesetting language, with which you will periodically write up formal proofs. You will use either the VTeX program available on the lab machines on campus, or a combination of programs, MiKTeX and TeXnicCenter, which you can install for *free* on your own machine (and which I like better anyway). More information will follow. (pronunciation: some mathematicians say "lah-tek" while others say "lay-tek". I prefer the former, but under no circumstances should it be pronounced "latex" as in the stuff you'd make gloves out of.) As a final note, calculators are not required for this course and will not be permitted on dailies or exams, although you are certainly welcome to use them on homework if you choose.

Academic Honesty: We take this very seriously at Centre. You are all responsible for understanding and following the *Academic Honesty* section of the *Centre College Student Handbook*. Obviously, you should neither give nor receive aid on exams or quizzes; nor should you copy homework solutions from internet sources or greek file cabinets. On the other hand, it is perfectly OK to discuss homework problems with your classmates, in fact I *strongly encourage* it. Communicating about mathematics with your classmates will play an important role in learning the material. However, your turned-in solutions must be written up individually – that means no copying a friend's write-up and handing in an identical paper. This goes for your LaTeX proofs, too.

Accommodation: I am more than happy to accommodate exceptional students of all kinds — please do not hesitate to bring your unique situation to my attention! In most cases, your request should be accompanied by a letter from Mary Gulley, Assistant Dean of Advising, indicating your accommodations. It is important that you make arrangements with me in a timely fashion. In particular: do not wait until the day of the test to request extra time.