Math 103b Spring 2014: Modern Algebra II

MWF 11-11:50pm, AP&M B412
Professor D. Rogalski

1. Contact Information

Prof. Rogalski's Office: 5131 AP&M

E-mail: drogalsk@math.ucsd.edu

Class web site:

`www.math.ucsd.edu/~drogalsk/103b.html`

Check here for announcements, homework assignments, and the lecture and exam schedules. You can also find a link by following "resources" and then "course websites" from the math department homepage (link will not become active until sometime during week 1).

Office hours: TBA

Section Leader: Susan Elle (6422 AP&M)

E-mail: selle@ucsd.edu

Meeting Times: W 4-4:50pm, AP&M B412

Office hours: TBA

2. Basic Course Information

• *Course description and placement information* This is a second class in abstract algebra. The main topics will be ring theory and field theory. We will also discuss several applications.

• *Prerequisites* The prerequisite is Math 103a or Math 100a. If you feel that this is the right course for you even though you have not yet passed the prerequisite, please come see me so we can discuss your particular case.

• *Textbook* The textbook is *Contemporary Abstract Algebra* by Joseph Gallian, 8th Edition. We will cover Chapters 12-18 on rings, and selected topics from Chapters 19-23 and Chapter 31. A tentative calendar of what sections will get covered when will be updated on the website as we go. It is important that you read the text as well as attend the lectures. The changes to Gallian's textbook in the last few editions are not major, and you could use a copy of an earlier edition. Some of the exercises/exercise numbers may be different, though, and you will need to look at a copy of the 8th edition to make sure that you do the correct exercises.

• *Discussion section* This is your opportunity to get a review of some of the basic concepts, ask questions about the homework, and see worked examples. The section will meet for the first time on Wednesday, April 2 (week 1).

• *Homework* Homework will be assigned weekly; the problems for the week will be posted on the class website. Homework will be due on Fridays in the homework box which your TA will set up in the basement of AP&M; the deadline for handing it in is **2pm**. Note that the first homework is due quickly, at the end of week 1. No HW will be due the weeks we have midterm exams. Late homework will not be accepted, but the lowest two homework scores will be dropped. Note also that e-mailing a scanned copy of your HW to the TA is not an acceptable form of submission. I try to assign a mix of straightforward problems which help you to work through the definitions and concepts, together with some more challenging problems.

You should expect to spend a lot of time thinking about some of these exercises, doing scratch work and playing with examples, until you start to get insight into the problem. This process does not have time to play itself out if you start the homework at the last minute. It is extremely important for this reason that you start the homework early. This will also allow you to take better advantage of the office hours of the instructor and TAs.

The write-up of the solutions you submit should be neat and well-organized. I usually recommend a first draft where you write out a solution which is as messy as you want, scratch things out if necessary, etc., and then a final draft in which you rewrite your solutions carefully. If your proof is not legible or we cannot follow it, then we can't give your credit. *See the section below on academic honesty for more rules/advice about homework.*

• *Exams* The in-class 50-minute midterms will be on **Friday 4/25/14** (week 4) and **Friday 5/23/14** (week 8). The final exam is on **Friday 6/13/14** from 11:30am-2pm. No aids such as books, notes, calculators, etc., are allowed during exams. Note that the grades on the first midterm will not be available before the 4th week drop deadline.

• *Office Hours* Both I and your TA will have several office hours a week at times TBA where we will be available for your questions. Please make an appointment (either ask in person or send an e-mail) with one of us if you cannot make the regularly scheduled office hours.

• *Grading* Your final average will be calculated by using the percentages HW 20%, Midterm 1 20%, Midterm 2 20%, Final Exam 40%. Your final grade will be at least as good as the grade given by the following standard scale:

97	93	90	87	83	80	77	73	70	60
A+	A	A-	B+	B	B-	C+	C	C-	D

The final grading scale will almost surely be more lenient than this, depending on the class average; the average grade in an upper division math course like this tends to be some sort of B/B-, though it could be higher or lower depending on the particular class.

3. Academic Honesty

Academic honesty is important to me and I expect you to abide by the university's policies. Violations academic dishonesty will be reported and your grade may be lowered accordingly. Copying from or otherwise collaborating with a neighbor, using unapproved notes, calculators, or other aids, or having someone take the exam for you, are examples of serious violations.

Here are my honesty rules on homework, which may be less obvious to you.

1. The homework you hand in should be your own written work, and your own only. It is not acceptable to copy word for word, or paraphrase, the work of another student in the class, or a solution found elsewhere (for example on the internet or in a solutions manual), and hand it in as your own work. Please note that such dishonesty is extremely likely to give you an advantage anyway, since the homework score is a small percentage of the grade and a poor understanding of the homework typically leads to poor exam scores.

2. It is fine to talk to others about the homework, just be careful not to violate rule 1. You should not write up the homework as a group, because your written work should reflect your own final understanding of the problems. Getting help/advice from the professor/TA/classmates on especially difficult problems that you have already thought hard about yourself and are stuck on is OK. But remember that the more time you put into thinking hard about the problems yourself, the more prepared you will be for exams.