

Math 113 – Abstract Algebra Syllabus (Fall 2005)

Instructor: Kevin Woods, 867 Evans Hall, kwoods@math.berkeley.edu

Lectures: MWF 2-3pm, 71 Evans

Office Hours: Monday 10-11am, Wednesday 1-2pm, Friday 3-4pm.

GSI Office Hours: Sami Assaf will hold office hours for all Math 113 students, Wednesday and Thursday from 9:30am-12pm and 1pm-3:30pm in 891 Evans

Webpage: <http://math.berkeley.edu/~kwoods/Math113.html>

Required Textbook: Ronald Solomon, *Abstract Algebra*, Brooks/Cole.

Other recommended texts:

John Fraleigh, *A First Course in Abstract Algebra*.

Joseph Gallian, *Contemporary Abstract Algebra*.

These books, as well as the required text, are on reserve in Moffitt Library. These two are more traditional abstract algebra textbooks, so they are good to refer to for definitions, exercises, etc., of abstract concepts (groups, rings, fields, ideals, etc.)

Grading:

Daily homework assignments (20%).

“Group” homework assignments (20%).

Midterm (25%).

Final Exam (35%).

Daily homework assignments (20%).

These will be assigned each day. Each Friday at the beginning of class, you will turn in all of the problems that have accumulated since the last time I collected. Part of your grade for this portion will be that you have reasonably attempted each problem. In addition, a few randomly selected problems will be checked for correctness. These will be scored by a grader, but any questions about your grade should come to me. You may work together on these problems, but your written solution must be your own.

“Group” homework assignments (20%).

You will be divided into approximately five groups. Each night, your group will be assigned one “group” problem (in addition to the regular homework assignment). You are not expected to meet and work on it, but you are certainly welcome to. At the beginning of the next class, I will select one person at random from the group to present the solution. The group will have a couple of minutes to confer, and then we will start the presentations. This is meant to be informal, and you do not need to worry about having a perfect solution. Your group (and the rest of the class) is free to help you.

25% of your group homework assignment grade will come from this presentation: a $\checkmark+$ (100%) means you got it mostly correct, a \checkmark (80%) means you had a good start, but didn't quite get everything, a $\checkmark-$ (50%) means you had clearly thought about the problem, but your answer had some big holes. If you are not there that day, or if you are not present at the very beginning of class, you will receive a 0, and I will choose someone else from your group to present.

The other 75% of the grade will come from your written-up solution to this problem. The same person who presented must email me, by 6am of the morning of the next class meeting, a careful and complete solution. The file with the solution must be in either PDF format or a simple text file (**NOT** Microsoft Word, and not simply pasted in your email). The filename must be in the format “C3P12.pdf” or “C3P12.txt” (this example is for Chapter 3 problem 12, i.e., problem 3.12 in the book). I will return a printout to you at the next class meeting with a $\checkmark+$ (100%), a \checkmark (80%), or a $\checkmark-$ (50%). I will grade fairly strictly, but a $\checkmark-$ can be edited and emailed to me again by 6am of the next day of class and may be raised to a \checkmark . Regardless of

your grade, if I put the word “Edit” on your solution, you must edit it and email it back to me by the next class period, or I may give you a 0 for that assignment (in particular, if you present a problem and aren’t going to be in class the next day, make sure a friend picks it up or come by office hours). For an example of the timeline: If a problem is assigned on Monday and you are chosen to present it on Wednesday, you must send me the first file by Friday at 6am; if edits are necessary, you must send those by the next Monday at 6am.

I know this is quick turnaround, but I am going to post them on the web for the whole class to look at, so the process needs to be speedy.

PDF files will often be preferable to a text file, because you might want to include a picture or use mathematical symbols (which may make your solution clearer and hence give you a better grade). If you want to create a file in Word or something, you can fairly easily convert it to PDF: In Mac OS X, you can open your document, go to *File > Print*, and select *Save as PDF*. In Windows you can download and install the free program CutePDF Writer from <http://www.cutepdf.com/Products/CutePDF/writer.asp> (you’ll have to also install another free program which is linked from that page), and then you print using CutePDF as your printer, and it saves it to a PDF file.

Midterm (25%).

Friday, March 17, in class.

Final Exam (35%).

Saturday, May 13, 5-8pm.

Course Outline: Most likely we will cover the chapters 1-9, 10-14, 16-18 of the text. There are a lot of problems in this book, and they are integral to an understanding of the material. There are too many good and important problems for you to work them all on your own, which is why we’re splitting up the work into groups. But you are responsible for understanding every assigned problem and its solution. The emphasis of this class will be slightly different from the other sections of 113. We will play around with concrete problems before developing the abstract concepts.