Mathematics 505   Winter 2004

Instructor: John Palmieri, Padelford C-538, 543-1785
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Time and place: MWF 9:30, PDL C-036
Office hours: drop in, and by appointment
Grader: Sunil Chebolu, Padelford C-541
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Office hours: tba
Web page: `http://www.math.washington.edu/~palmieri/Math505/`
Text book: *Abstract Algebra*, 2nd edition, by Dummit and Foote.

Grading: I will give weekly homework assignments; there will also be a midterm and a final exam. The final exam will take place on Wednesday, March 17, 8:30–10:20, in our regular class room. Both the midterm and final will be closed-book, in-class exams. The midterm is worth 15% of the grade; the final is worth 40%, and the homework is worth 45%.

Plan for the course: I will do a quick review of linear algebra: vector spaces and linear transformations. We will then spend most of the quarter discussing modules; these are a generalization of both vector spaces and abelian groups. This means that we will cover Chapters 10–12 of the book, and then see how much time is left.

Prerequisite: Math 504.

All of the information here is the unchanged from last quarter:

Reading and homework: The best way to learn mathematics is to do it; so you should read the book and do the homework problems. I will provide weekly reading assignments; by **each Sunday evening at 9:00 pm**, you need to send me an email message about the reading: provide a brief summary of the most important ideas in the reading, and also at least one question about the reading that you would like me to address in class. All together, these reading reports will count the same as one homework assignment; you may skip one reading report without any penalty.

By the way, when you read a section of the book, you should also read all of the problems. Sometimes there are interesting results in the problems, and sometimes an unassigned problem can provide clues about how to do an assigned one. (For example, if you are trying to do problem 4 in Section 13.2 and are not quite sure about the degree of $1 + \sqrt[3]{2} + \sqrt[3]{4}$ over $\mathbf{Q}$, the last sentence of problem 20 essentially tells you that it's equal to 3.)

As mentioned above, I will assign homework weekly. It will be due **each Wednesday at noon**, in my mailbox. A good approach for homework is to first try to do a problem on your own, and then if you run into difficulties, you can discuss the confusing issues with your classmates. Of course, you are certainly welcome to ask me or the TA for suggestions.

Office hours: Feel free to drop by my office; if I'm there and not talking to someone else, I'm probably available to talk about algebra. If I'm not there, email is a good way to contact me, since I check it pretty regularly. I will not be in my office on most Thursdays.

Other books: There are lots of fine algebra books out there, and it's often a good idea to look at several different approaches to mathematical concepts. I have put two books, *Algebra* by Michael Artin and *Algebra* by Serge Lang, on reserve in the math library. Artin's book covers a little less material than Dummit & Foote, at a slightly lower level; I think it's best suited for undergraduates rather than graduate students. Lang's book is similar to D&F as far as content and intended audience; I find it a bit less accessible, but you might like it. Another classic is Jacobson's *Basic Algebra I and II.*

Grades: Here is the range of grades which I will assign (at least to the graduate students in the class), and interpretations of those grades.

grade	interpretation
3.8–4.0	very good (also suitable for a course prelim pass)
3.5–3.6	mostly solid, with a few holes
3.2–3.4	some serious flaws in your performance
3.0–3.1	not good
2.7	failing (for graduate students)