MATH 457 – Abstract Algebra II
Spring 2011
Syllabus

Instructor:	Dr. Colin Starr	**Office Hours:**	MTHF 10:10-11:10
Office:	Ford 213		M 12:45-1:45
Office Phone:	(503) 370-6419		
Home Phone:	(503) 585-4088		
e-mail:	cstarr@willamette.edu	**My URL:**	http://www.willamette.edu/∼cstarr

Required Text: *Abstract Algebra: An Introduction, Second Edition*, by Thomas W. Hungerford, ISBN 0-03-010559-5. [DON'T get the yellow Springer version – that's a graduate text!]

Course Description: This course is a continuation of Abstract Algebra. We will explore advanced topics in algebra, including Galois Theory, the Sylow Theorems, and rings with special structures. We will also devote time to student-selected topics.

This is an advanced course in which I will rely heavily on student presentations, which means that you will need to be ready to present your share of the material. Your questions and interests will also drive the topics we cover, so be curious!

Students will

1. understand the major theorems we cover and their proofs
2. prove theorems in general algebraic settings,
3. apply general algebraic theorems in specific instances, and
4. understand the fundamental principles underlying the algebra they have been familiar with.

To give the course direction, we will also make the insolvability by radicals of the quintic a primary goal for mid-semester.

Grading: The following components make up your grade:

1. **Colloquium Attendance:** Colloquium attendance be worth 4% of your grade. You are required to attend 4 colloquia during the term. If your schedule does not permit colloquium attendance, I will provide an alternate assignment (typically writing a paper about a mathematics article).

2. **Homework:** Homework write-ups will account for **28%** of your final grade. You will be submitting your homework problems via LaTeX, a mathematical typesetting program. Solutions are due one week after the problems are assigned. We will have class time to discuss some of them.

3. **Presentations:** Presentations in class will be worth 28% of your grade, as well. I will post my evaluation form on our website so you can see what I'm looking for.

4. **Midterm:** There will be one midterm worth **20%** of your grade. It will have an in-class portion and a take-home portion. The expected date of the midterm is Thursday, March 10.

5. **Final**: The final will be worth **20%** of your grade, and it will be comprehensive. It is scheduled for Saturday, May 7, 2011, 2-5 PM.

Format for Submitting Problems: You will be using LaTeX to typeset homework solutions. I will post a LaTeX introduction on my website. For each problem, please include the section, problem number, and page number. You do not have to state the problem, but you are welcome to do so. Our course website has a LaTeX template you are welcome (but not required) to use for this course.

NOTE: I encourage you to work with other students. However, it is plagiarism to simply copy someone else's solution and present it as your own. Be very careful not to do this when you type up solutions!

Contacting Me: My office hours, above, are flexible. Those are the times you can be sure to find me in my office (or at least nearby). I am usually there anyway, and you are welcome to come by for help or to ask me questions even if it is not during my office hours. Also, you are welcome to call me at home until 8:00 p.m. I check my e-mail frequently on weekdays and occasionally on weekends. You can also check my web page for information about the course (e.g., homework assignments and due dates, exam dates, etc.). I will post problems and solutions there, too.