MATH 522-01 Intro to Abstract Algebra II, Spring ’10

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Office Hours: M 1:30-2:20pm, TTh 3:50-4:40 and by appointment.

Course Meetings TTh 1:00pm - 2:15pm, NS317


Prerequisites Math 521, Math 301, Math 325, Math 311.

Important Dates
- Jan. 12 (Tue.): Last day to drop or add
- Jan. 18 (Mon.): Martin Luther King
- Feb. 24 (Wed.): Last day to withdraw
- Mar. 15-21 (Mon.-Sun.): Spring break, no classes
- Apr. 21 (Wed.): Last day of classes

Course Content/Goal
This course is a next step of Math 521 where the basics of Abstract Algebra was discussed in Chapters 0-11. This course introduces rings including integral domains, ideals, ring homomorphisms and fields including extension fields, finite fields as well as vector spaces. We will try to cover Chapters 12-22 of the text. If time permits, Chapter 23 or 32 will be covered.

Emphasis In addition to mastering the basics of Abstract Algebra, you OBJECTIVES: will learn how to do mathematics in this course. You will come up with proof of your own and you will develop your creative ability to come up with new and innovative ideas for proofs. IF YOU ARE UNFAMILIAR WITH GROUPS LIKE CYCLIC GROUPS, PERMUTATIONS GROUPS, NORMAL SUBGROUPS, AND FINITE ABELIAN GROUPS, PLEASE REVIEW THEM WHENEVER THEY APPEAR. You are allowed to use a simple calculator (for a graphic one, ask me) on all quizzes and exams (but even correct answers without explanations will receive no credit).

Grading Procedure Your final letter grade will be determined by your performance on (Regular, pop or take-home) quizzes, extra homework, one project, 2 tests, and one final. The percentage break up is as follows:

- Quizzes/Project/Extra Homework 30 %
- Two Tests 40 % (20% per each)
- Final Exam 30 %
- Total 100 %

Students taking this course for graduate credit will be required to do extra work. Any graduate student (math major or not) taking this course is considered to take it as a graduate credit.

Minimum letter grades are as follows:
- $A^+ \geq 98\%$, $A \geq 90\%$, $A^- \geq 86\frac{2}{3}\%$
- $B^+ \geq 83\frac{1}{3}\%$, $B \geq 80\%$, $B^- \geq 76\frac{2}{3}\%$
- $C^+ \geq 73\frac{1}{3}\%$, $C \geq 70\%$, $C^- \geq 66\frac{2}{3}\%$
- $D^+ \geq 63\frac{1}{3}\%$, $D \geq 60\%$, $D^- \geq 56\frac{2}{3}\%$
- $F < 56\frac{2}{3}\%$.
Tentative Test Schedule:

Test 1 Thursday, Feb. 11
Test 2 Thursday, Apr. 1
Final Exam Friday, Apr. 23, 2:30PM - 5:00PM

**Homework** We will have homework assignment. It is very important that you do the homework regularly. If you fall behind, it will be difficult to catch up. We will discuss homework in class and, from time to time, you will be required to make presentations in class.

**Quizzes** There will be several quizzes during the semester. Some of them may be announced and others unannounced. Hence, you always need to come to class prepared. We will drop your lowest quiz grade.

**Projects** There might be a project dealing with interesting topics. More detailed information will be available later.

**Make-up** NO MAKE-UP QUIZZES OR EXAMS will be given unless you report your absence before the quiz/exam, get a permission from me, and you show doctor’s note or some documents for excuse by the following class day. In this case, at most one make-up for either quiz or exam is allowed.

**Absences** In order to receive consideration, arrangement must be made prior to missing any tests, quizzes, homework or other due date, if possible. However, in any event, it MUST BE MADE BEFORE THE NEXT CLASS MEETING. Official documentation, such as accident reports, hospital admission forms should be provided when appropriate to substantiate excuses. If you are absence from class for any reason, it is YOUR responsibility to obtain notes, assignments, due dates from another student in class. It is a good idea to exchange phone #’s or e-mail addresses with a couple of your classmates.

**Remarks** The instructor reserves the right to make changes in the syllabus when necessary to meet learning objectives, to compensate for missed classes, or for similar reason.

You also need to check blackboard and your UofL e-mail for updates, announcements, etc for this course.

Students must adhere to the Code of Student Conduct and to the Code of Student Rights and Responsibilities.
Homework

Below are some homework exercises for each chapter. Other exercises might be added as the material is discussed in class.

**Homework exercises**

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