MATH 7210: Algebra I   Fall 2015

Lectures: Lockett 113, MWF 10:30 – 11:20

Professor: Karl Mahlburg	**TA:** TBA
Office: Lockett 228	**Office:**
Office Hour: W 11:30	**Office Hour:**
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Website   All important course information, including lecture information, homework assignments, and other announcements will be found on the course Moodle page. Most announcements will also be sent by e-mail. Please check it frequently!

Textbook   David Dummit and Richard Foote, *Abstract Algebra, Third Edition*, John Wiley and Sons, 2003.

Content   This course covers the fundamental concepts from abstract algebra that are necessary throughout the graduate program. The material in this course is the basis of the graduate Comprehensive Exam in Algebra. We will cover material from Chapters 1 – 12 in the textbook, which broadly contain the basic notions of groups, rings, modules, and linear algebra. Topics will include symmetric groups, quotient groups, the Sylow theorems, group actions, direct products, commutative rings, integral domains, polynomial rings, modules over PIDs, vector spaces, and linear transformations.

Prerequisites   You must have completed a two-semester undergraduate sequence in Algebra (equivalent to MATH 4210 and 4211) in order to enroll in this course.

Schedule   Due to University holidays, this class will **not** be held on Monday, Sep. 7; Friday, Oct. 30; or Friday, Nov. 27. If you are unable to attend the regularly held office hours, you may also schedule an appointment.

Homework   Homework assignments will be due on most **Fridays** at the beginning of class (10:30), and will be posted on the course website one week in advance. You are expected to complete the problems as thoroughly as possible, though some questions will be open-ended and/or computational. Each assignment will include at least one question from the Comprehensive Exam Problem Bank.

You should expect to spend 5 – 7 hours weekly on homework assignments and reading. If you find that you need significantly more (or less!) time than this, please schedule a meeting with me to discuss your progress.

Group work is allowed (and encouraged), but you must write your answers individually. You are also required to list the names of classmates with whom you worked.

Exams Three Midterm Exams will be given in-class as practice for the Comprehensive Exam, and will consist of 2 – 3 questions similar to those in the Problem Bank. No supplemental materials are allowed during exams, including calculators, computers, class notes, etc. You may not communicate by any means with other students during exams. If you have any conflicts with the scheduled exam times, or have any University-approved special needs, you must inform me *in advance*.

Exam 1	Monday, Sep. 28 (in-class)
Exam 2	Monday, Oct. 26 (in-class)
Exam 3	Monday, Nov. 30 (in-class)

Grading Your grade will be largely determined by the successful completion of the weekly homework assignments. Regular attendance and participation during lectures is also expected. Your grade will be lowered by one full letter for every **three** unexcused absences. Course grades will be weighted as follows:

	Percentage
Problem Sets	70%
3 Midterm Exams	30%

Homework assignments will be graded on the percentage of problems that show reasonable progress; you will receive detailed feedback on a small number of problems. As of Fall 2015, LSU has implemented a $\pm$ grading system, and your grades will be assigned as follows:

Grade	Standard
A+/A/A-	Successful completion of at least 97%/93%/90% of assigned work.
B+/B/B-	Successful completion of at least 87%/83%/80% of assigned work.
C+/C/C-	Successful completion of at least 70%/60%/50% of assigned work.
D/F	Less than 50% completion.

In order to continue in the graduate program, the only acceptable grades are A or B.

Conduct LSU students are expected to maintain high standards of academic integrity. Any incidences of suspected cheating on exams and quizzes will be reported directly to the Judicial Affairs Division in the Dean of Students Office; offenses can result in loss of course credit or expulsion from the university. Instances of direct copying on homework assignments will result in loss of credit for **both** students involved.

Scientific calculators and touchscreen or stylus computers are allowed *solely* for note-taking. Cell phones, MP3 players, and all other electronic devices are not allowed in the classroom at any time.