

Course Information

Instructor: *Name:* Jake Wildstrom
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Phone number: (502)852-5845 (x5845)
Office: Natural Sciences Building 113
Office hours: *Primary:* T11:00–13:00, R14:30–15:30
Secondary: M11:00–12:30, W14:00–15:30, and by appointment

Course Websites:

https://blackboard.louisville.edu/webapps/blackboard/execute/courseMain?course_id=_1359794_1

<http://aleph.math.louisville.edu/teaching/2015SP-522>

Lecture: TR 13:00–14:15 in Natural Sciences Building 110

Prerequisites: MATH 521.

Description: Continuation in greater depth of topics introduced in MATH 521; introduction to theory of ideals, field extensions, and abstract vector spaces.

Text: *Contemporary Abstract Algebra*, by Gallian, eighth edition (ISBN 978-1-133-59970-8) chapters 12–20; if time allows, we may also do topics from chapters 21–23.

Objectives: We will learn the definition and properties of algebraic rings and fields, and several applications and specific concepts relating to rings and fields.

Learning Outcomes: Students will learn the basic theory of rings; improve ability of following the proofs of difficult statements; increase mathematics logic skills and writing proofs skills in the context of a high level course. Outcomes will be assessed via homework and exams.

Responsibilities: You are responsible for attending class daily and maintaining comprehension of the material presented in class. Problem sets will be assigned regularly and posted online. You must complete all assigned problems promptly, and attend examinations on the scheduled dates. Extracurricular interaction with your fellow students, and with the instructor, will be very useful in developing your comprehension.

Special needs: Any scheduled absence during the examinations, or any other special needs, *must* be brought to my attention during the first week of class. During a scheduled absence, you are expected to complete assignments on time, submitting them by e-mail if necessary. Absence due to unforeseen emergencies will be dealt with on a case-by-case basis and must be documented.

Honesty: There are many resources available to help you succeed in this class, particularly consultation during office hours and cooperation with other students. It is important, however, that all papers handed in be the result of your individual comprehension of the course material. Duplication of others' work is both a disservice to your own education and a serious violation of the university's academic honesty policy.

Grades: Problem sets will account for 30% of your grade, the two midterm examinations will each be worth 20%, and the final examination will be worth 30%. A 90% overall guarantees a grade of A–, 80% guarantees a B–, and 70% guarantees a C–.

Changes: The syllabus is subject to change. Changes will be announced in class and updated online.

Course Schedule

This schedule is tentative and subject to change.

Week	Tuesday	Thursday
1		January 8th Chapter 12
2	January 13th Drop date Chapter 12	January 15th Chapter 13
3	January 20th Chapter 13	January 22nd Chapter 14 Problem Set #1 due
4	January 27th Chapter 14	January 29th Chapter 14
5	February 3rd Chapter 14	February 5th Chapter 15 Problem Set #2 due
6	February 10th Chapter 15	February 12th Exam #1
7	February 17th Chapter 16	February 19th Chapter 16
8	February 24th Chapter 16	February 26th Chapter 17 Problem Set #3 due
9	March 3rd Chapter 17	March 5th Chapter 17
10	March 10th Chapter 18	March 12th Chapter 18 Problem Set #4 due
11	March 16th–20th Spring break	
12	March 24th Chapter 18	March 26th Exam #2
13	March 31st Chapter 19	April 2nd Chapter 19 Problem Set #5 due
14	April 7th Chapter 19	April 9th Chapter 20
15	April 14th Chapter 20	April 16th Chapter 20
16	April 21st Chapter 20 Problem Set #6 due	April 23rd Reading day
Final exam, Friday, April 24th, 14:30PM-17:00		