

Math 456 – Abstract Algebra

Fall 2017

Course Procedures

Professor: Josh Laison

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Office Hours:

Monday and Wednesday 3:00-4:00

Tuesday and Thursday 9:30-11:00

and anytime by appointment or by catching me in my office.

My available times are on my webpage <http://www.willamette.edu/~jlaison>

Class Meetings: Ford 201, 12:40-1:40 Monday, Wednesday, Friday

Text: Contemporary Abstract Algebra, Joseph Gallian, 8th Edition

Course Web Page: <http://www.willamette.edu/~jlaison/algebra.html>

Graded components of the course:

Homework assignments (approximately 10)	30%
Quizzes (approximately 10)	25%
Take-home exams (2)	25%
Group investigation journal (approximately 3)	15%
Class participation and presentations	5%
Total	100%

Goals of the Course: Gain knowledge and familiarity with groups and rings; gain experience communicating algebra formally and informally, verbally and in writing; improve problem-solving, logical, and analytic skills; gain mathematical sophistication in thinking about problems more abstractly, and within a larger theoretical framework; prepare for additional courses in abstract algebra at Willamette and in graduate school.

Homework assignments: Homework assignments will be due about once every week. There will be two types of homework problems, the ungraded *Exercises* and the graded *Problems*. You should use the exercises as practice and review to understand the week's material, and some of the questions on the quizzes will be selected from the exercises. The exercises will not be collected. The problems will be collected, and I will grade a subset of them, as time permits. You are encouraged to work together on the homework and form study and problem solving groups. However, please write your solutions to the collected problems in your own words. Use \LaTeX to write your solutions to these assignments. Please use the `\usepackage{setspace}` `\doublespacing` options in your preamble to give me enough room for comments.

Please use the math hearth and my office hours often to work together and ask questions.

Quizzes: We will have a short in-class quiz about once every week. The quizzes will test your understanding of the fundamental ideas of the course, including definitions, examples, and short proofs. Some of the problems from the exercises will appear on the quizzes.

Take-home Exams: There will be two take-home exams during the course of the semester, a midterm and a final. You may not consult any person about these assignments other than me. You may not consult any source about these assignments other than your textbook, your notes, and class handouts. Don't hesitate to ask me if you have questions on a take-home exam. Please leave ample time to ask questions before the exam is due.

Group Investigation Journals: Your group journal will be an opportunity for you to engage in more open-ended exploration of algebraic structures and their properties. You will receive your own personal group for the semester, and you'll spend time studying and exploring it while we learn about groups in class. You'll use your group as an example to test theorems and conjectures from class, identify interesting properties, and make new conjectures and discoveries, and you'll record your findings in your group journal. I will collect the group journals three times during the semester, and give you feedback on your progress.

Attendance at the Math Department Colloquium: According to math department policy, since you are enrolled in a 400-level mathematics course, you are required to attend at least 4 mathematics department colloquium talks. The goal of this requirement is to expose you to a wider range of mathematics, and to make you want to go to more than 4 talks! I hope you will decide by the end of the semester, as I have, that math talks are a lot of fun. If you miss this requirement, points will be deducted from your final grade.

Time Commitment: Willamette's Credit Hour Policy holds that for every hour of class time there is an expectation of 2-3 hours of work outside of class. Since this class meets three days a week you should anticipate spending 6-9 hours outside of class engaged in course-related activities.

Diversity and Disability Statement: (Adapted from the Accessible Education Services Office) Willamette University and I value diversity and inclusion. We are committed to a climate of mutual respect and full participation. My goal is to create a learning environment that is usable, equitable, inclusive and welcoming for people of any gender identity or expression, race, color, national or ethnic origin, religion or religious belief, age, marital status, sexual orientation, or disability.

If there are aspects of the instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, please notify me as soon as possible. Students with disabilities are also encouraged to contact the Accessible Education Services office in Matthews 103 at 503-370-6737 or disb-info@willamette.edu to discuss a range of options to removing barriers in the course, including accommodations.

Religious Accommodations: (From the Office of the Chaplain) Willamette University recognizes the value of religious practice and strives to accommodate students' commitment to their religious traditions whenever possible. If you anticipate missing class for religious reasons, please contact me to discuss your needs.

Academic Honesty: Cheating and plagiarism are serious offenses and will be treated severely, in accordance with Willamette University Standards of Conduct and the Willamette Ethic. The Willamette policy on plagiarism and cheating is located at

http://www.willamette.edu/cla/catalog/resources/policies/plagiarism_cheating.php

These are the practices I expect you to follow in each of the components of the course:

on the homework and group journal: You may, and are encouraged to, discuss the homework with fellow students, and get help from your professor, textbook, notes, or calculator. Your submitted written work should be your own. Copying solutions written by another person, or providing your solutions to be copied by others, is a violation of university policy.

on the quizzes and final: You may not receive aid from any source other than me. Copying others' work, or providing your work to be copied by others, is a violation of university policy.