

M 431-801

(Abstract Algebra I)

Spring 2021

Location: online

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Webex Office Hours (tentative):

Tues 5:30-6:20, Thursday 4:10-5 (all PM)

About the Instructor

I am a Polish-American mathematician with primary expertise in the area of Dynamical Systems. I worked in several different fields, and I am also currently interested in high-capacity fiber optics and quantum communication/computation. I research, teach, advise B.S. and Ph.D. students, and perform service functions to the MSU and the broader academic community.

Prerequisites

M 333 Linear Algebra

Content

An introduction to groups, rings, fields, and their selected applications.

Materials

Textbook: *Abstract Algebra*, by I.R. Herstein (3rd edition, Wiley)

Electronic Resources: Additional materials and links to videos will be posted on *Desire2Learn* (D2L).

Organization

All course delivery and communication will be remote (by electronic means), with the D2L portal serving as the hub. Your learning will be anchored by instructional videos on key aspects of the material and points of particular emphasis. I will be recording and posting the videos as the semester progresses and your feedback will be critical for shaping their content. Webex based virtual office hours will help facilitate this communication. I am also pretty good at answering emails, with expected turnaround time < 8 h in the waking hours. Every **Monday** (morning) a homework set for the week will be announced. (If requested, I can make it available two days earlier.) Your solutions are due the following **Friday** (midnight). My answers will be released and posted on **Sunday**. We will have a quiz on **Wednesday** every two weeks (excluding the exam week). There will also be one midterm and a final exam; see the evaluation scheme below. Brainstorming and collaboration on homework is fine and very much encouraged but I ask that the final write-up of the solutions reflects your arrived understanding. The exam and quiz work is to be independent. Finally, this is the first run of fully online M431, so we may implement some tweaks to the plan on the fly.

Evaluation

Grades will be determined according to the following table:

Homework	Quizzes(1 drop)	Midterm Exam	Final Exam
25%	25%	20%	30%

The final exam is comprehensive.

Homework: Homework will be assigned every week according to the time-line described above. Your solutions should be submitted as a single PDF file to D2L with the name following the format exemplified by **m431h2KSmith.pdf**, as would be appropriate for the 2nd homework of K. Smith. (Please, label the problems clearly and preview the file to see that it is legible, with no important matter outside the rendering area.)

Exams: As already mentioned, I plan on short bi-weekly quizzes (on Wed, 20 min), a midterm (1-2h), and a comprehensive final exam (2h). They will administered with a fixed solution time window, itself placed within an agreed upon broader time frame. Details are subject to negotiations:)

Course Policies and Requirements

Special Accommodations: If you have a documented need for special accommodation please let me know well in advance.

Missed Exams: Please, bring up any conflicts **prior** to missing the exam.

Cheating: I know you will not. It has short legs, anyways.

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