Math 321: Abstract Algebra

Summer 2021

George Mason University

Course meetings: MTWR 10:30-12:35, `https://gmu.zoom.us/j/91637865804?pwd=c3dCNGMvUTlRd3VUa1RNT1pXcWxEdz09`

Instructor: Harry Bray, he/him/his, `hbray@gmu.edu`,
Exploratory Hall, Room 4453

Office hours: Generally office hours will be after class based on student need, or by appointment.

Prerequisites: Both of the following are required:

- A C/XS or better in Math 213 or 215.
- A C/XS or better in Math 300.

Course materials: The textbook is

Contemporary Abstract Algebra, 7th edition, by Joseph A. Gallian

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Technology

Students are expected to have reliable internet connection to attend class. The following software is required for all students:

- Blackboard
- Zoom
- Gradescope

We may also use Jamboard and, optionally, Overleaf.

Course topics and goals:

The course topics include the theory of groups and rings. We will cover most of chapters 0-15 of the book, time permitting. That means on average, we will cover slightly more than one chapter per day. Course goals include:

- content mastery
- mathematical literacy
- proof-writing
- working with examples and counterexamples

Structure of the course:

The instructor will host virtual class meetings during the scheduled class meeting time on Zoom. During these meetings, students will receive support with the material and course work. These meetings may not always be traditional style lecture classes.

At times, students will work either individually or in small groups on problems posed by the instructor. The lecture components of the sessions will be recorded and made available on Blackboard.

Students will be assigned textbook readings before each class, to prepare them for the topic of the day. Students will complete and submit short assignments based on these readings. These will generally be due the evening before class, so the instructor can check on student understanding and adjust the class time to meet student needs.

Grading:

Students will be graded based on daily reading assignments, regular homework assignments, one midterm exam, and one final exam. The midterm and final exams will each have an untimed, written component, and an oral component.

Each student receives a final numerical score based on the following breakdown:

Assessment	Percentage of final grade
Reading assignments	5%
Homework	15%
Written Midterm	20%
Oral Midterm	20%
Written Final	20%
Oral Final	20%

A student's numerical grade is then converted to a final letter grade using the following scale:

A-: 89.5 - 92.49;	A: 92.5 - 97.49;	A+: 97.5 - 100
B-: 79.5 - 82.49;	B: 82.5 - 87.49;	B+: 87.5 - 89.49
C-: 69.5 - 72.49;	C: 72.5 - 77.49;	C+: 77.5 - 79.49
D: 59.5 - 69.49;	F: 0 - 59.49.	

All written assessments will be submitted via Gradescope. The reading and homework assignments will be evaluated on a modified completion grade.

Each reading assignment will follow the same general format. These assignments are designed to encourage students to read critically and reflect on their own understanding of the content. Reading mathematics is an active, practiced skill.

Students are encouraged to discuss homework problems with each other to deepen their understanding. There may be designated working sessions during scheduled classtime. Although the scoring is based on completion, students will receive feedback on the homework assignments to help them improve and prepare for the exams. This grading system is designed to remove any incentive to view other solutions before working the homework problems. Students will gain much more from the course experience if they work the problems with support from the instructor and their peers, rather than a polished solution. Moreover, getting a problem incorrect or

partially correct is a natural step in the learning process. Receiving and responding to feedback on imperfect work is essential for intellectual growth.

Exams:

Exams are scheduled as follows:

Assessment	Date	Time
Oral Midterm	**Wednesday July 7**	during class or scheduled appointment
Written Midterm	**Wednesday July 7**	due on Gradescope at 11:59pm
Oral Final	**Thursday July 22**	during class or scheduled appointment
Written Final	**Friday July 23**	due on Gradescope at 1:15pm

All students are expected to complete exams as scheduled. **Any conflicts must be communicated to the instructor immediately**. Any accommodation of conflicts is at the sole discretion of the instructor.

Conduct, collaboration, and academic integrity:

You are expected to follow the GMU Honor Code:

`https://oai.gmu.edu/mason-honor-code/`

Though students are encouraged to discuss homework assignments to generate ideas, **it is your responsibility to write the final product on your own.** No collaboration is allowed on tests. Any indication that you have copied, or allowed fellow student(s) to copy your work for these assessments is a violation of the GMU Honor Code.

Some of the behaviors that will be considered cheating include:

- Communicating with another person during an assessment which does not allow for collaboration.
- Copying material from another person for **any assignment being graded** and submitting it as if it is your own individual work.
- Allowing another person to copy from any assignment being graded.
- Use of unauthorized assistance on any assignment being graded.
- Use of unauthorized notes, books, calculators or cellphones during an assessment.
- Providing or receiving a copy of a quiz or exam used in the course.

Services and accommodations: If you have a learning or physical difference that may affect your academic work, please see me and contact the Office of Disability Services (ODS) at 993-2474, `http://ods.gmu.edu`. All academic accommodations must be arranged through the ODS.

Counseling and Psychological Services are available for GMU students: `http://caps.gmu.edu` / 703-993-2380

Inclusivity and equity: George Mason University is an intentionally inclusive community that promotes and maintains an equitable and just work and learning environment. We welcome and value individuals and their differences including race, economic status, gender expression and identity, sex, sexual orientation, ethnicity, national origin, first language, religion, age, and disability. I invite students to come to me with any concerns about inequitable access or treatment in this course.

University policies: The University Catalog, `http://catalog.gmu.edu`, is the central resource for university policies affecting students, faculty and staff conduct in university academic affairs. Other policies are available at `http://universitypolicy.gmu.edu/`. All members of the university community are responsible for knowing and following established policies.