UMASS LOWELL DEPARTMENT OF MATHEMATICS AND STATISTICS

COURSE INFORMATION FOR MATH 4210/5210

Abstract Algebra I — Fall 2025

Instructor:	Dr. Emily Gunawan
E-mail:	emily_gunawan@uml.edu
Drop-in Office Hours:	Tue 2–3 pm and 5–6 pm & Thurs 2–3 PM (also available by appointments)
Office Hour location:	Southwick Hall 350M (email first if you wish to attend virtually)
Class meetings:	Tue 6:30 – 9:20 pm (see SiS for classroom)

Course description (from the course catalog for Math.4210 and Math.5210): Elementary group theory, groups, cosets, normal subgroups, quotient groups, isomorphisms, homomorphisms, applications.

Prerequisites: MATH.2190 Discrete Structures I.

Textbook: *Contemporary Abstract Algebra, 9th Edition* by Joseph A. Gallian

Core topics:

- (Ch 1–7) Groups, permutations, isomorphisms, cosets

- (Ch 9–10) Homomorphisms, normal subgroups and quotient groups

- If time permits, we may cover (Ch 12-16) intro to rings and fields; (Ch 30) Cayley digraphs; and other topics from the textbook

Attendance and participation: Students are expected to attend class regularly, as regular attendance is one of the most important contributors to student success. However, students may occasionally need to miss class due to illness, emergency, or caring for a sick family member. In such cases, you are responsible for notifying me of your absences and working with me to arrange to make up any missed work. Please communicate your requests with me regularly and with as much advance notice as possible.

Likewise, if I should become ill or need to miss class, I will communicate with you via your UML email as soon as possible with clear instructions.

If the campus is closed due to weather or other unforeseen circumstances, please check your UML email for information on how to proceed. Class may be canceled, held virtually, or course material may be presented in a different way in order to stay on schedule.

- Prolonged absences: In the rare case of a prolonged medical or personal absence, please contact me as soon as possible so we can discuss whether it is advisable for you to remain in class, and if so, to come up with a plan for you to make up missed work.

Assessment and Evaluation Methods:

- Group quizzes and class activities (5%): The group quizzes are usually more challenging than the individual quizzes and can include new materials. However, your groups can seek guidance from me, and so you can expect to earn full credit.

  Other group activities include working together on homework problems on the board (with my help). Your group may be asked to present your work/ideas to another group or to the whole class.

  Group members will be assigned randomly each week.

- Assignments (15%): Homework problems will be assigned regularly. You are expected to write complete, detailed solutions.

- Individual Quizzes (20%): There will be a short in-class quiz (on paper) almost every week, about 15-20 minutes long.

  There are no make-ups for missed quizzes. If you are sick or have mandatory travels (military service, UML athletic events, etc), please let me know and I will drop that day's quiz score.

- Exams: There will be a total of three exams, Exam 1 (20 %), Exam 2 (20 %), and the Final Exam (20%). All will be in-person.

  - Exam 1 will be on Tue, Oct 7, 2025.
  - Exam 2 will be on Tue, Nov 4, 2025.
  - The comprehensive Final Exam will be during the final exam period (Sat, Dec 13 through Sat, Dec 20). The exact time and location will be announced by the university and posted on sis.uml.edu. Mon, Dec 22 is for exams postponed because of weather.

- Technology policy: No electronics (calculators, phones, etc) are allowed during exams and quizzes. You may, if you wish, use computer software (such as SageMath) while working on the homework.

- The following grading scale will be applied at the end of the semester:

Percentage:	Letter Grade:
$[93 - 100]$	A
$[90 - 93)$	A-
$[87 - 90)$	B+
$[83 - 87)$	B
$[80 - 83)$	B-
$[77 - 80)$	C+
$[73 - 77)$	C
$[70 - 73)$	C-
$[67 - 70)$	D+
$[63 - 67)$	D
$[0 - 63)$	F

Some important dates:

- Exam 1: Tue, Oct 7, 2025

- Exam 2: Tue, Nov 4, 2025

- Veteran's Day (no class): Tue, Nov 11, 2025

- Last day to drop with an automatic "W" (Withdraw): Thurs, Nov 13, 2024

- Final exam: **To be announced by University Registrar**

- URL link: UML Fall 2025 Academic Calendar

Student Mental Health and Well-being: Your personal health and well-being are important to all of us at the university. I'm available to talk about your stresses or concerns related to your coursework in my class.

Here are some resources to support your well-being:

- Counseling Services provide crisis intervention, assessment, referrals, short term individual counseling and group therapy. Call to book an appointment at (978) 934-6800.

- [UMatter2](#) is a university-wide initiative to support students and promote mental health. They can be reached at (978) 934-6671.

- [Centers for Learning and Academic Support Services (CLASS)](#) provides advising services including goal setting, course selection, SIS functions, changing majors/minors and course deletions. (978) 934-2936 or Advisement@uml.edu.

- The mission of the [Office of Student Life & Wellbeing](#) is to advance the holistic concept for student success by infusing health-promoting actions and collaboration into campus culture. They can be reached at 978-934-4342 or Wellbeing@uml.edu.

Disability Services Academic Accommodations: If you are registered with Disability Services and will require academic accommodations, please notify me via the Accommodate [semester request process](#) as soon as possible so that we might make appropriate arrangements. It is important that we connect to discuss the logistics of your academic accommodations; please speak to me during office hours, privately after class, or send me an email. If you need further information or need to register for academic accommodations, please visit the [Disability Services Website](#).

Diversity, Inclusion, and Classroom Community Standards: UMass Lowell — and your professor — value human diversity in all its forms, whether expressed through race and ethnicity, culture, political and social views, religious and spiritual beliefs, language and geographic characteristics, gender, gender identities and sexual orientations, learning and physical abilities, age, parenting status and social or economic backgrounds. Enrich yourself by practicing respect in your interactions, and enrich one another by expressing your point of view, knowing that diversity and individual differences are respected, appreciated, and recognized as a source of strength.

[The Office of Multicultural Affairs (OMA)](#) supports and advocates for students while leading diversity-related programming. It also works to create an inclusive environment for LGBTQ+ individuals via the LGBTQ+ Resource Center. Contact (978)934-4336 or Multicultural_Affairs@uml.edu.

Academic Integrity Policy: All students are advised that there is a [University policy regarding academic integrity](#). Students are responsible for the honest completion and representation of their work. A student who cheats on an examination or assignment is subject to administrative dismissal.

Even though you are encouraged to work together on homework, *copying or letting someone else copy your homework solution is cheating.* Don't do it.

Using peers and technology as resources: Unless stated otherwise, in this particular course *(only this class — you should check with your professor for your other classes)*, you are free to work with other people and use technology on homework to aid your learning. Whenever you work with another person or get help from a different book or the internet/technology on a take-home assignment, please credit them — write the person's name, website address, or name of technology at the top of your submission.

Working with other people on mathematics is highly encouraged and fun. You may work with anyone on your homework assignments, but make sure to *write up your final draft by yourself.*