MATH 612 SYLLABUS

INSTRUCTOR: Kristin DeVleming (she/her), kdevleming@umass.edu

WEBSITE: Canvas, or https://people.math.umass.edu/~devleming/teaching/612/

LECTURE: TuTh 8:30-9:45 LGRT 1334.

OFFICE HOURS: TBA LGRT 1242.

TEXTBOOK: **Abstract Algebra**, by Dummit and Foote, third edition.

COURSE OBJECTIVES:
- Develop a grasp of advanced algebra, suitable for passing the algebra qualifying exam.
- Cultivate a working knowledge of field theory, Galois theory, commutative algebra, Ext and Tor, and more as time allows.

We will cover Chapters 13 - 17 of Dummit and Foote. We will cover about one section of the textbook per lecture. I will post a tentative schedule to Canvas. There is a significant amount of material to cover. The textbook is well-written with many examples and I recommend that you read the textbook outside of class.

HOMEWORK:

Homework will be submitted, graded, and returned through Gradescope. I will assign homework every week or two weeks. Doing the homework problems is an essential part of learning the material. You are welcome and encouraged to work on homework in groups, however, you must write your solutions on your own.

Your homework is expected to be neatly handwritten or typed in LATEXwith complete proofs (i.e. using complete sentences as appropriate, showing clear logic, numbering or referencing theorems from class or the book, etc). A subset of the problems handed in will be graded for correctness but it is your responsibility to ensure you understand the remaining problems. At the end of the semester, your lowest homework score will be dropped.

EXAMS:

There will be a midterm exam and a final exam. These are tentatively scheduled for:
- **Midterm: Thursday, October 26, in class**
- **Final: Monday, December 11, 8 - 10 AM**

GRADE:

Your final grade will be based upon your homework (30 %), midterm (30 %), and final exam (40 %). The standard grading scale is:

A	A-	B+	B	B-	C+	C	C-	D	F
90	87	83	79	75	71	67	63	55	< 55

This may be adjusted based on exam performance.

I endorse Federico Ardila's axioms:

(1) Mathematical talent is distributed equally among different groups, irrespective of geographic, demographic, and economic boundaries.
(2) Everyone can have joyful, meaningful, and empowering mathematical experiences.
(3) Mathematics is a powerful, malleable tool that can be shaped and used differently by various communities to serve their needs.
(4) Every student deserves to be treated with dignity and respect.

ACCOMMODATION STATEMENT:

The University of Massachusetts Amherst is committed to providing an equal educational opportunity for all students. If you have a documented physical, psychological, or learning disability on file with Disability Services (DS), you may be eligible for reasonable academic accommodations to help you succeed in this course. If you have a documented disability that requires an accommodation, please notify me within the first two weeks of the semester so that we may make appropriate arrangements. For further information, please visit Disability Services (https://www.umass.edu/disability/)

ACADEMIC HONESTY STATEMENT:

Since the integrity of the academic enterprise of any institution of higher education requires honesty in scholarship and research, academic honesty is required of all students at the University of Massachusetts Amherst. Academic dishonesty is prohibited in all programs of the University. Academic dishonesty includes but is not limited to: cheating, fabrication, plagiarism, and facilitating dishonesty. Appropriate sanctions may be imposed on any student who has committed an act of academic dishonesty. Instructors should take reasonable steps to address academic misconduct. Any person who has reason to believe that a student has committed academic dishonesty should bring such information to the attention of the appropriate course instructor as soon as possible. Instances of academic dishonesty not related to a specific course should be brought to the attention of the appropriate department Head or Chair. Since students are expected to be familiar with this policy and the commonly accepted standards of academic integrity, ignorance of such standards is not normally sufficient evidence of lack of intent (http://www.umass.edu/dean_students/codeofconduct/acadhonesty/).

TITLE IX STATEMENT:

In accordance with Title IX of the Education Amendments of 1972 that prohibits gender-based discrimination in educational settings that receive federal funds, the University of Massachusetts Amherst is committed to providing a safe learning environment for all students, free from all forms of discrimination, including sexual assault, sexual harassment, domestic violence, dating violence, stalking, and retaliation. This includes interactions in person or online through digital platforms and social media. Title IX also protects against discrimination on the basis of pregnancy, childbirth, false pregnancy, miscarriage, abortion, or related conditions, including recovery. There are resources here on campus to support you. A summary of the available Title IX resources (confidential and non-confidential) can be found at the following link: https://www.umass.edu/titleix/resources. You do not need to make a formal report to access them. If you need immediate support, you are not alone. Free and confidential support is available 24 hours a day / 7 days a week / 365 days a year at the SASA Hotline 413-545-0800.

OTHER INFORMATION:

If you need anything from me throughout the semester (e.g. an extension on a homework assignment, or a one-on-one meeting), *please reach out.* If you need additional help, the University provides low- or no-cost mental health and counseling services to all students through the Center for Counseling and Psychological Help, https://www.umass.edu/counseling/.