

Syllabus for (Graduate) Modern Algebra I

Fall 2025, Howard University

Course #: Math 210
Class time: Mon-Wed, 10:30-11:50am
Classroom: Annex III (Graduate School) - #224
Website: <http://www.samuelhopkins.com/classes/210.html>

Instructor: Sam Hopkins
Email: sam.hopkins@howard.edu
Office: Annex III (Graduate School) - #220
Office Hours: Tuesdays 10-11am, or by appointment

Course content: This is an introduction to the basic structures in modern algebra. We will focus on groups, rings, and modules, and also may discuss categories.

Prerequisites: Calculus, linear algebra, basic methods of proof. Having taken an undergraduate algebra course will be helpful but is not required.

Textbook: T.W. Hungerford, *Algebra*

Grading: 40% Homeworks • Each of two Midterms 20% • Final 20%

There will be 6 **homework** assignments for the semester. There will be two in-class **midterm exams**, and one **final exam** during finals week.

Collaboration on the homework is encouraged, as long as each person understands the solutions, writes them up in their own words, and indicates with whom they collaborated. Collaboration on the exams is not allowed, and all exams must be taken in person without any outside aids.

I expect you to show up to class and be engaged. Grades will be posted to the Canvas site. I may consider other factors, like class participation, when determining final letter grades, especially in borderline cases.

Course outline: We will try to cover most of the following chapters of Hungerford:

Introduction - Prerequisites (Logic, Sets, Functions, et cetera)

Chapter I - Groups

Chapter II - Structure of groups

Chapter III - Rings

Chapter IV - Modules

Reproduced below this line are various department- and school-wide policy statements.

Academic Code of Student Conduct (*please see Howard University handbook*): No copying, unauthorized use of calculators, books, or other materials, or changing of answers or other academic dishonesty will be tolerated. Cheating will not be tolerated. Anyone caught cheating will receive an F for the course and may be expelled from the university.

Grievance Procedure: If you have any problems with the policies or rules of this course, discuss your concerns with your instructor. If you are still unable to come to a satisfactory arrangement, you may contact (depending on your status) the Director of Undergraduate Studies, Dr. Jill McGowan, jmcgowan@howard.edu, or the Director of Graduate Studies, Dr. Henok Mawi, henok.mawi@howard.edu, and then, finally, the Chair of the Department, Dr. Bourama Toni, bourama.toni@howard.edu.

Americans with Disabilities Act: Howard University is committed to providing an educational environment that is accessible to all students. In accordance with this policy, students in need of accommodations due to a disability should contact the Office of Student Services (202-238-2420, oss.disabilityservices@howard.edu) for verification and determination of reasonable accommodations as soon as possible after admission and at the beginning of each semester as needed.

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