MAS 6331: Algebra I   **Fall 2025**

Instructor: Kevin Keating
Office: Little 482
Telephone: 352–294–2311
E-mail: `keating@ufl.edu`
Class meets MWF 9:35–10:25 in Little 217.

<u>Office hours</u>

Mondays 1:55–2:45 and Fridays 1:55–3:50, or by appointment.

<u>Textbook</u>

Abstract Algebra (Third Edition) by Dummit and Foote

<u>Exams</u>

Wednesday, October 15, 7:00–9:00 PM
Wednesday, December 10, 10:00–12:00 PM

<u>Prerequisites</u>

Students are expected to have a basic understanding of group theory and ring theory, corresponding to the material covered in sections 1.1–1.7, 2.1–2.5, 3.1–3.2, and 7.1–7.4 of the textbook.

<u>Syllabus</u>

This course is an introduction to abstract algebra at the graduate level. The first part of the course will be devoted to group theory: isomorphism theorems, composition series, the alternating group, group actions, the Sylow theorems, direct and semidirect products of groups, p-groups, nilpotent groups, and solvable groups. After that we will study ring theory: fraction rings, the Chinese remainder theorem, Euclidean domains, PIDs, UFDs, and polynomial rings.

<u>Homework</u>

Homework problems will be assigned and graded on a regular basis. Although you are encouraged to discuss these problems with your classmates, the work you turn in for grading should be entirely your own. In particular, no collaboration is allowed on write-ups of solutions.

<u>Grading</u>

The homework will count 40%, the midterm will count 25%, and the final will count 35%.

Some other useful information can be found here:

`https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/`.