

Algebra II

MATH-UA 344.001
Fall Semester 2013

Instructor: Sophie, Marques,
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Office hours Tuesdays 11:00–12:30 or by appointment.
Website: <https://files.nyu.edu/sm5439/public/enseignements.html>

Time and place: Mondays and Wednesdays, 9:30 – 10:45 AM, CIWW 512. First class: Wednesday 4 September.

Exams: There will be one in-class midterm and a final. The midterm is tentatively scheduled for Wednesday 16 October during the class. According to the presently posted schedule, the final exam will take place on Monday 16 December 8:00 – 9:50 AM.

Recitation Section: Fridays 8:00 – 9:15 AM, CIWW 317. Instructor: Or Hershkovits. First meeting Friday 13 September.

Textbook: I. N. Herstein, *Topics in Algebra*, second edition.

Program: The core of the course is an introduction to the theory of fields, including extension fields, splitting fields, constructibility with ruler and compass and finite fields, culminating in Galois theory. We will follow primarily Chapter 5 and Section 7.1 of Herstein with some supplemental material (notes for the course available on my website). We begin with with some topics from ring theory (Sections 3.9–3.10 of Herstein) and an introduction to vector spaces over general fields (Sections 4.1–4.2).

Practical matters. I will make use of my website. In particular, problem sets will be posted there and not distributed in class. I plan to give weekly homework assignments, to be posted on Mondays and due to the next monday. There will be 4 quizzes during the semester. Grading will be based *roughly* 50% on the final, 30% on the midterm, 10% on the homework and 10% on the quizzes. The first problem set will be due on Monday 16 September.

Collaboration on homework is *encouraged*, but solutions are to be written up separately. If you do work with others, please write on your solution paper the names of your collaborators.