Content:

The course will include:

- Rings, modules, unique factorization domains.
- The theory of quadratic fields: Rings of integers, ideals, fractional ideals and the class group.
- Galois theory, including eventually the non-solvability of the quintic.

You can find out more by viewing the video introduction to the course.

Textbook: Algebra by M. Artin, 2nd ed.

Course notes: https://www.overleaf.com/read/btxfyphxsxtj#838229

Notes on tensor products: tensornotes-1.pdf

Notes on determinants: algebra-serge-lang.pdf

Course staff:

- Prof. Mark Kisin (kisin.mark@gmail.com), Office Hours SC 234 on Weds 2:00 - 3:00pm
- Amy Feng (afeng@college.harvard.edu), OH: Lowell Dhall on Sundays 10:30am - 11:30am
- Emma Cardwell (ecardwell@college.harvard.edu), OH: Quincy dining hall Thursdays **9:00 - 10:00pm.**
- Ziyong Cui (ziyongcui@college.harvard.edu), Office Hours Mather Dhall Mondays 1:45 - 2:45pm. No in-person OH on 3/18 (day after Spring break). As always, I will be available be email though.
- Lectures will be held Monday and Friday 12-1:15 pm

Attendance is highly recommended.

Homework: Will be assigned on average about every two weeks, and is due one week after assignment. Assignments will be posted on this site, and should be submitted electronically via this website. Doing the homework is essential to learning the material properly, and will be critical to doing well on the midterm and final (see below). Extensions will be granted when circumstances genuinely warrant but should be requested at least 24 hours ahead of the deadline.

Assessment and Grade: There will be an in class Midterm on 3/4 and a Final exam. The grade will be based on a combination of Homework, Midterm and Final. The questions on the Midterm and Final should be **completely routine and straightforward,** if you do all the homework, and come to lectures.

Community: I hope that students will help me create an inclusive and welcoming environment in the course. This is not a competition, and we should all aim to help each other on our mathematical journeys.

Academic integrity policy: You are encouraged to discuss and collaborate with each other on the homework assignments. However, make sure that you can work through the problems yourself, and write up your answers on your own. This is not only a matter of academic integrity, but also crucial for properly learning the material. For exams, collaboration or consultation of sources other than those explicitly permitted is not allowed.