

18.705: COMMUTATIVE ALGEBRA (FALL 2017)

COURSE INFORMATION

Lectures: TR 9:30-11am in 2-136

Lecturer: Aaron Pixton

E-mail: apixton@mit.edu

Office Hours: MW 3:30-4:30pm in 2-275 or by appointment

Grader: Yu Zhao, zy199402@mit.edu

COURSE WEBSITE

There is a course website at <http://math.mit.edu/~apixton/classes/18.705/>.

COURSE DESCRIPTION

This course will cover various topics in the theory of commutative rings. We will be (loosely) following the book “Introduction to Commutative Algebra” by M. Atiyah and I. Macdonald. This book is rather terse; if you want a more comprehensive reference, you might try “Commutative Algebra with a View Toward Algebraic Geometry” by D. Eisenbud.

PREREQUISITES

We will assume familiarity with the definitions of rings, modules, and ideals.

PROBLEM SETS

Problem sets will (usually) be assigned each Thursday and will be due on the following Thursday (in lecture or via e-mail before lecture). When submitting problem sets by e-mail, please send them to the grader (zy199402@mit.edu) but also cc me (apixton@mit.edu) on the e-mail. Also, the subject line should be “18.705 - Problem Set N”, where N is the number of the problem set.

You are encouraged to discuss the problems with your classmates, but you must write up your solutions independently. You must also include a written acknowledgment of everyone you worked with in your assignments, as well as any external sources you consulted.

There will be no exams; your final grade will be based on the problem sets.

OFFICE HOURS

My current weekly office hours are MW 3:30-4:30pm in 2-275. These may be subject to change! You are also welcome to contact me to schedule an alternative meeting time.