

Math 143: Elementary Algebraic Geometry

Instructor: Daniel Bragg - braggdan@berkeley.edu

Website: http://math.berkeley.edu/~braggdan/143_S22/

Lecture: TuTh 8:00-9:30 (Evans 70)

Course Content

Math 143 is an introduction to algebraic geometry. Broadly speaking, algebraic geometry is the study of the solutions to systems of polynomial equations. We will discuss varieties, ideals, and the Nullstellensatz.

Course Structure

Our lecture time is TuTh 8:00-9:30. In-person lectures will be held in Evans 70. Remote lectures will be held on Zoom. You can find the Zoom meeting link and password on the bCourses page. Zoom lectures will be recorded and posted on bCourses.

Our official textbook is “Ideals, Varieties, and Algorithms: An Introduction to Computational Algebraic Geometry and Commutative Algebra” (4th edition) - Cox, Little, O’Shea.

Grading

Grades will be calculated from homework scores (15%), the two midterm exams (25% each), and the final exam (35%).

Homework

Homework will be assigned approximately weekly, and will be posted on the course website. Your lowest homework score will be dropped. That is, your lowest score will not be included in your final grade. Turn in your homework electronically on bCourses. You can choose to typeset your solutions using LaTeX (recommended!), or handwrite your solutions and scan them.

The homework is where most of your learning will take place. It is the most important part of the class. You are encouraged to talk with other students, tutors, instructors, and so on about the homework. However, for your own sake, do be sure that you work through and understand each of the problems yourself. The goal of the homework is to gain understanding, and not just to get the right answer. If you do not understand the homework, it will be impossible to do well on the tests.

Exams

We will have three exams: two midterms and a final. The dates will be posted on the website. Each test will be “take home” format. You will have one week to complete each exam. They are open book, open notes, and open recorded lectures. You should not discuss the content of the exam with anyone else (including virtually).