

# Intro to Algebraic Geometry – Math 60710 Syllabus, Spring 2021

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**Office hours:** Tuesdays 10-11am, or by appointment.

**Required text:** *Introduction to Algebraic Geometry* by Brendan Hassett, Cambridge University Press.

## Course Description

Algebraic Geometry is the study of systems of polynomial equations and their vanishing loci. It has many facets that lie in the realm of geometry, algebra and computation, and it has countless applications. This course tries to give a flavor of these different aspects of the field and how they fit together. The topics covered include affine and projective varieties, Gröbner bases and elimination theory, graded rings, Hilbert polynomials, and the Nullstellensatz.

## Grading policy

The course grade will be based on homework and class participation. You are encouraged to collaborate in solving the homework exercises, but you are expected to write up the final solutions on your own, to acknowledge and to fairly attribute any outside contributions to your work. Each homework is due at the beginning of class on the specified due date.

Your final grade will be computed as follows:

- Homework 70%.
- Participation 30%.

Note that the Honor Code is in effect for all assignments! For more information on the honor code see [www.honorcode.nd.edu](http://www.honorcode.nd.edu).