

The Department of Mathematics

2019–20–A term

Course Name Algebraic Geometry

Course Number 201.2.4111

Course web page

<https://www.math.bgu.ac.il/en/teaching/fall2020/courses/algebraic-geometry>

Lecturer Dr. Ishai Dan-Cohen, <ishaida@bgu.ac.il>, Office 214

Office Hours <https://www.math.bgu.ac.il/en/teaching/hours>

Abstract

Requirements and grading¹

Course topics

Generally speaking, algebraic geometry deals with geometric objects defined by polynomial equations. We will cover topics 1-3 below, and maybe one other topic, depending on the level of the students.

Topics

1. Topics from commutative algebra.
2. Algebraic varieties over an algebraically closed field: definitions and main properties.
3. Curves and their function fields.
4. Intersection Theory in the projective plane.
5. Vector bundles and coherent sheaves.
6. Picard group and projective embeddings.
7. Schemes: definitions, examples and basic properties.

¹Information may change during the first two weeks of the term. Please consult the webpage for updates