

The Department of Mathematics

2016–17–B term

Course Name Introduction to Computational Algebraic Geometry

Course Number 0281

Course web page

<https://www.math.bgu.ac.il/~bessera/computer-algebra07-adv.pdf>

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

Abstract

Requirements and grading¹

- Rings and modules, Polynomial rings in several variables over a field
- Monomial orders and the division algorithm in several variables
- Grobner bases and the Buchberger algorithm, Elimination and equation solving
- Applications of Grobner bases:
 - integer programming
 - graph coloring
 - robotics
 - coding theory
 - combinatorics and more
- The Hilbert function and the Hilbert series, Speeding up the Buchberger algorithm, The f4 and f5 algorithms

More details: <https://www.math.bgu.ac.il/~bessera/computer-algebra07-adv.pdf>²

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

²<https://www.math.bgu.ac.il/~bessera/computer-algebra07-adv.pdf>



Course topics

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