

## The Department of Mathematics

2018–19–A term

**Course Name** Solving Equations

**Course Number** 201.1.0381

**Course web page**

<https://www.math.bgu.ac.il/en/teaching/fall2019/courses/solving-equations>

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

### Abstract

### Requirements and grading<sup>1</sup>

### Course topics

Goal: To teach the basic methods of numerical algebraic geometry that allow to find all solutions to a system of polynomial equations over the complex numbers and applications of these methods Topics: Polynomials in several variables, The zero set, Resultants, Elimination and Bezut theorems, The Newton method in several variables, Homotopy continuation and finding isolated solutions, Computation of higher dimensional components, Applications in robotics and elsewhere.

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