

## The Department of Mathematics

2015–16–B term

**Course Name** Number theory

**Course Number** 201.1.6031

**Course web page**

<https://www.math.bgu.ac.il/~efrat/NT/>

**Lecturer** Prof. Ido Efrat, <efrat@bgu.ac.il>, Office 106

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

### Abstract

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

### Course topics

Number Theory studies the structure of the integers and the natural numbers. In addition to classical topics (prime numbers, congruences, quadratic residues, etc.) there is an emphasis on algorithmic questions and in particular on applications to cryptography.

- Divisibility and prime numbers
- Congruences
- The multiplicative group of  $\mathbb{Z}/m$
- Quadratic residues
- Continued fractions
- Algebraic numbers and algebraic integers

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