Theory of Numbers

Dr Ishai Dan-Cohen

Fall 2017

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