Course Name  Model theory and applications

Course Number  201.2.2141

Course web page  https://www.math.bgu.ac.il/en/teaching/spring2022/courses/model-theory-applied

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

Abstract

Requirements and grading

Course topics

The aim of the course is to present applications of model theory (a branch of Mathematical Logic) in one or more area of mathematics. The particular direction will be determined by coordination with the students, but might include the following:

- Algebraic theory of differential equations (Galois theory, dimension, classification in dimension 1)
- Model theory of valued fields (imaginaries, integration theory, analytic spaces)
- o-minimality, with applications to arithmetic
- Difference fields and difference equations, applications to dynamics, asymptotic theory of the Frobenius
- Continuous model theory, applications to operator algebras, probability etc.

Background from logic and other relevant areas will be covered as necessary.

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