

STEKLOV INTERNATIONAL MATHEMATICAL CENTER

STEKLOV MATHEMATICAL INSTITUTE
OF RUSSIAN ACADEMY OF SCIENCES

EDUCATIONAL CENTER

Fall semester 2023/2024

«Descriptive set theory»

(Vladimir G. Kanovei)

The course contains an introduction to descriptive set theory. As a more special part of the course, the theory of Borel and more complex equivalence relations will be presented, including some results on the actions of Polish groups.

Preliminary program of the course.

Lecture 1. Polish spaces, sets, hierarchies.

Lecture 2. The first projective level.

Lecture 3. Effective theory.

Lecture 4. The second projective level.

Lecture 5. Borel equivalence relations: an introduction.

Lecture 6. Dichotomy theorems.

Lecture 7. The Glimm-Efros dichotomy.

Lecture 8. Glimm-Efros dichotomy and forcing.

Lecture 9. Classification by countable structures.

Lecture 10. Turbulence.