

PhD Program: Operations Research
Professional Branch: 4.5. Mathematics
Major Field of Study: Operations Research
Faculty: Mathematics and Natural Sciences
Department: Informatics

Brief Annotation: Aim of the PhD Program in Operations Research is to prepare experts in the area of Mathematical Programming, Operations Research, Optimal Control, Theory of the Games (Matrix and Differential), Mathematical Modeling, Mathematical Economics, Mathematical Biology, etc. The PhD Program aim, on the one hand, is to present scientific achievements in this area of research, and on the other hand, to encourage the creative abilities of the PhD students to achieve their own scientific results by solving an actual theoretical or applied problem in this area.

Competences of PhD students completed this program:

PhD students, completed this program, can create mathematical models of phenomena and/or processes, to take part in scientific work in the area of mathematical optimization and operations research, to propose algorithms for solving various optimization problems, to study computational complexity of algorithms and to test algorithms.

Curriculum:

PhD students' education is based on an individual curriculum, approved by the Faculty Council, which is developed according to the topic of PhD Dissertation. Assessment is made by exam on the basis of six-grade system.

Sample list of courses

- Discrete Optimization – Prof. Peter Milanov, PhD
- Polyhedron Theory and Optimization – Prof. Peter Milanov, PhD
- Matroid Theory – Prof. Peter Milanov, PhD
- Optimization Problems on Graphs and Networks – Prof. Ivan Mirchev, DSc
- Mathematical Economics – Prof. Peter Milanov, PhD
- Operations Research and Bioinformatics – Prof. Peter Milanov, PhD
- Theory of Optimization Problems – Assoc. Prof. Stefan Stefanov, PhD
- Numerical Optimization – Assoc. Prof. Stefan Stefanov, PhD
- Optimal Control and Differential Games – Assoc. Prof. Stefan Stefanov, PhD
- English
- Russian or Another Foreign Language

In the Individual Curriculum of a PhD student, several courses are included among the courses of the above Sample list of courses and/or other courses, proposed and approved by the graduate advisor, the Department Council of Department of Informatics and Faculty Council of Faculty of Mathematics and Natural Sciences, as well as Foreign Language.

Graduation:

- Exams from the Individual Curriculum
- Defence of PhD Dissertation