ELECTIVE COURSES

Field of Study: Mathematical Modeling and Data Analysis, Undergraduate Level

OBJECT-ORIENTED PROGRAMMING

Educational Objectives

Mastering the content of the subject as specified in the program.

Requirements

Introduction to Programming

Course Content

- Basic elements of the Java language - data types, variables, output to screen, operators, conditional statements, loops, arrays.
- Basics of object-oriented programming - classes and objects, fields and methods, method overloading, constructors.
- Inheritance - subclasses, hierarchy, access specifiers, packages, method overriding, static members, final classes and members.
- Polymorphism.
- Abstract classes.
- Interfaces.
- Exceptions.
- Collections.

Literature

Literature used during classes and for individual study:

- Marcin Lis, Practical Java Course, Helion, 4th edition, 2015

- Cay S. Horstmann, Gary Cornell, Java: The Basics, Helion, 9th edition, 2013

Supplementary literature:

- Bruce Eckel, Thinking in Java, Polish edition, Helion, 4th edition, 2006