Level: bachelor	
Course title: Introduction to programming	
Status: elective	
ECTS: 9	
Requirements: none	

Learning objectives
- Enabling the student to understand the concepts of (computer) programming;
- Problem analysis;
- Implementation in a concrete procedural language.

Learning outcomes
At the end of the course, students are expected to demonstrate understanding of the concepts of (computer) programming, ability to understand problems and the implementation of solutions in a concrete programming language. Understanding of object-oriented concepts.

Syllabus
Theoretical instruction
History of development of programming languages. First programming language. Structure and parts of a program. Simple data types, enumeration type, interval type. Assignment, expressions. Control and iteration statements. Structured data types, arrays, records, sets. Procedures and functions. Input and output. Introduction to algorithms. Iterative and recursive approaches. Introduction to abstract data types. Example implementation of an abstract data type. Implementation using arrays. Object-oriented methodology: design and programming. Basic elements of object-oriented programming: classes, inheritance, dynamic bounding. Packages. Exceptions.

Practical instruction
Practicing the understanding of basic principles of the programming using suitable programming language. Practicing control and iteration statements, as well as simple, structured, and abstract data types. Practical implementation of algorithms using an appropriate editor and compiler. Working with strings, input and output streams, classes, objects, inheritance, abstract classes, interfaces, arrays, packages, exceptions.

Weekly teaching load				Other:
Lectures: 2	Exercises: 2	Other forms of teaching: 0	Student research: 0	**0**