Title **An introduction to programming**	Code **1010331421010330622**
Field **Computer Science**	Year / Semester **1 / 2**
Specialty **-**	Course **core**
Hours Lectures: **2** Classes: **-** Laboratory: **2** Projects / seminars: **-**	Number of credits **5**
	Language **polish**

Lecturer:

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Status of the course in the study program:

Obligatory course, field Computer Science.

Assumptions and objectives of the course:

Description of basic programming styles and programming concepts with examples in C, C++ and Prolog.

Contents of the course (course description):

Algorithm vs program. Basic programming styles: imperative, declarative, object-oriented. Basic data structures in C, C++ and Prolog. Basic programming concepts: declarations and definitions of variables, constants and their types, arithmetical and logical operators , expressions, assignments, conditionals, loops, goto statement, I/O statements, files and streams. Functions and procedures. Parameters. Pointers. Dynamic memory allocation and implementation of dynamic data structures. Recursion and is implementation. Basic concepts of declarative programming: expressions, rules, clauses, constraints. Basic object-oriented programming concepts: classes, objects, methods, constructors and destructors, access modifiers. Inheritance and polymorphism. Implementations of selected algorithms in C, C++ and Prolog. Program correctness and appropriate verification methods.

Introductory courses and the required pre-knowledge:

Basic knowledge about computer systems.

Courses form and teaching methods:

Lectures illustrated with slides, laboratory exercises.

Form and terms of complete the course - requirements and assessment methods:

Exercises and tests.

Basic Bibliography:

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Additional Bibliography:

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