Poznan University of Technology
Faculty of Electronics and Telecommunications

European **C**redit **T**ransfer **S**ystem

Title **An Introduction to Computing**	Code **1010807121010810132**
Field **Electronics and Telecommunications**	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, I year, Faculty of Electronics and Telecommunications

Assumptions and objectives of the course:

> It aims to introduce students to the breadth of the discipline of computing, so that they come to understand the role of programming in the broader context of computing. Furthermore, it presents the methodologies and techniques of computer programming using C++, providing a fairly complete introduction to the language. The course is accompanied by several ?part of the picture? sections presenting the various knowledge area of the discipline. These sections try to provide an overview of the computer science and a foundation for further study in theoretical and/or applied computer science.

Contents of the course (course description):

> Computing history, computer architecture, C++ programming through object-oriented design, basic ideas of data types, internal data representation, operations, expressions, arrays, control structures for selection and repetition, reusability using functions, function parameters, function templates, numerical methods, recursive and greedy algorithms, the use of classes, data encapsulation, pointers and run-time allocation of memory, inheritance and virtual functions, class templates, computability theory, introduction to algorithm analysis, artificial intelligence, data structures (lists, stacks, queues, trees, graphs), object-oriented programming, sorting and searching algorithms.

Introductory courses and the required pre-knowledge:

> Basic knowledge of discrete mathematics.

Courses form and teaching methods:

> Lectures supported by multimedia presentations, tutorials and laboratory projects.

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

> Tests, individual projects, and written exam.

Basic Bibliography:

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Additional Bibliography:

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