1. INFORMATION ABOUT THE COURSE

A. Basic information

Name of course	***Fundamentals of programming***
Study level	*First degree*
Unit running the study programme	*Faculty of Telecommunication, Computer Science and Electrical Engineering*
Study programme	*Computer science*
Speciality	
Name of teacher (s) and his academic degree	*Tomasz Marciniak, PhD*
Introductory courses	*none*
Prerequisites	*none*

B. Semester/week schedule of classes

Semester	Lectures	Classes	Laboratories	Project	Seminars	Field exercises	ECTS
winter or summer	30		30				5

2. EFFECTS OF EDUCATION (acc. to National Qualifications Framework)

Knowledge	*on successful completion of the course student is supposed to understand and have a knowledge about C and C++ programming. Will be able to define algorithm design paradigm of programming style. Student will have the knowledge to the discussion of program validation.*
Skills	*on successful completion of the course student is supposed to: construct algorithms using basic algorithmic techniques and make analysis of their complexity, to assess the suitability of methods and tools for solving simple engineering problems and select and apply appropriate technologies*
Competences	*on successful completion of the course student is supposed to: work in a team creating simple programs, analyse the performance of algorithms will be able to implement the algorithms presented in either the flowchart as well as a list of steps. It will have the skills to develop and optimize algorithms*

3. TEACHING METHODS

multimedia lecture, lab

4. METHODS OF EXAMINATION

written exam at the end of lecture, oral reply at the end of lab

5. SCOPE

Lectures	*Compiler and interpreter, keywords of C and C++ language, syntax of programming language, types of variables and operators, arrays, instruction for control of statements, loops, functions and parameters, recursion, representation of numbers, chains of characters, indicators, classes, objects, streams, actions on the files, the concept of the algorithm.*
Laboratories	*Adequate to what is outlined on the lecture.*

6. LITERATURE

Basic literature	1. *The C Programming Language 2nd Edition, Brian W. Kernighan, Dennis M. Ritchie, Prentice Hall Software series;* 2. *The C++ Programming Language (4th Edition), Bjarne Stroustrup, Pearson Education Inc. 2013;*
Supplementary literature	1. *Professional C++, Nicholas A. Solter, Scott J. Kleper, Wiley Publishing Inc., 2005*