

DESCRIPTION ON THE INDIVIDUAL COURSE UNITS: Ovi

course unit title

Introduction to Programming

course unit code

Ovi

type of course unit (compulsory, optional)

Compulsory

level of course unit (e.g. first, second or third cycle)

First cycle engineering studies, Full-time

year of study

1

semester/trimester when the subject (course unit) is delivered

2

number of ECTS credits allocated

4

name of lecturer(s)

dr hab. inż. Jerzy Garus

learning outcomes of the course unit

Students should learn to write structured programs in the C language. They should become familiar working out solutions to simple programming problems, formulate algorithms and implement them in the C language. They should apply the C language rules in a good programming style.

mode of delivery (face-to-face, distance learning)

Face-to-Face

prerequisites and co-requisites

A working knowledge of using a computer, Microsoft Windows and DOS operating systems.

recommended optional programme components

None

course contents

LECTURE

Introduction to computer programming in C. Compilation process: editor, compiler, linker, capturing program output. Selection and control structures: if and switch statements. Repetition and loop statements: while, do, for loops. Programming style conventions: indentation, comments, naming, etc. Libraries, compiling and linking: basic concepts and header files. Top-down design with functions. Return by value and by reference. Const parameters, and pointer concepts. Modular Programming: data types, assignment, and arithmetic and logical operators and expressions. Input/Output: printf, scanf, fopen, fprintf, fscanf, fclose. Arrays: single and multi-dimensional arrays, declaration and initialization. Strings and basic string functions. Structure types and their use. File processing.

LABORATORY

Practical exercises concerning modular programming in C: loops, functions, arrays, pointers, dynamic memory, recursive functions, preprocessor, macrodefinitions with parameters, file processing.

recommended or required reading

Basic literature

1. Brian W. Kernighan, Dennis M. Ritchie, Język ANSI C, WNT, Warszawa 1998.
2. Stephen Prata, Język C. Szkoła programowania, Wydawnictwo Robomatic, Wrocław 2006.
3. PowerPoint Presentations published on the course site.

Supplementary literature

4. Brian W. Kernighan, Dennis M. Ritchie, The C Programming Language, Prentice Hall, Englewood Cliffs, New Jersey, 1988.
5. Al Kelley, Ira Pohl, A Book on C: programming in C, Addison Wesley Longman, 1998.

planned learning activities and teaching methods

Lecture	Tutorials	Laboratory	Project	Seminar	Sum
15	0	30	0	0	45

assessment methods and criteria

Course passing criteria	Passing threshold	Percentage of the final grade
Written examination	60%	60%
Practical exercise	60%	40%

language of instruction

Polish, English

work placement(s)

Not applicable