

Module card

I. GENERAL INFORMATION								
WITELON COLLEGIUM STATE UNIVERSITY DEPARTMENT Faculty of Technical and Economic Sciences								
Field of study:		Computer sciences						
Form of study:		Erasmus						
Module title:		MI2 Programming Basic I						
Module type:		Compulsory field of study						
Language of lecture:		English						
Year of study:	1	Forms of teaching including number of teaching hours:						
Semester (winter/summer):	winter	Lectures	Classes	Laboratory	Project	Workshop	Seminar	Other
Total number of ECTS credits:	6	15	-	15	-	-	-	-
Form of completion:		Pass with grade						
Prerequisites:		-						
II. LEARNING OBJECTIVES								
Learning objectives:								
Objective 1: Learning the principles of programming in a structured language using static and dynamic data structures Objective 2: Acquiring the ability to analyze an algorithmic task, its decomposition and implementation with program tasks distributed among functions and modules								
IV. PROGRAMME CONTENT								
Content of the programme (topics of classes, presented with a breakdown into individual forms of classes with the indication of the number of hours needed for their realization)								
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Code	Course topics in theory							Number of hours
S1	Structured programming paradigm, C language standardization, IDE environments, demonstration programs.							1
S2	Data types, operators, expressions, basic I/O operations.							1
S3	Controlling program execution.							2
S4	Single- and multi-dimensional arrays. Variable-length arrays.							2
S5	Defining, declaring, and calling functions. Function arguments.							2
S6	Pointers. Address and dereference operators. Pointers as function arguments.							1
S7	Pointer arithmetic. Processing arrays with pointers.							2
S8	Processing characters and strings using library functions.							1
S9	Structure types and variables. Structures as function arguments and return values.							1
S10	Streams. Disk file operations.							2
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Code	Course topics in practice							Number of hours
L1	Presentation of the course requirements. Introduction to the programming environment (IDE). Demonstration programs.							2
L2	Solving practical problems using predefined data types, arithmetic, logical, and relational operators; conditional statements; and simple I/O operations.							2
L3	Solving practical problems using iterative statements and single-dimensional arrays.							3
L4	Solving practical problems using functions, single- and multi-dimensional arrays, and various parameter passing methods.							2
L5	Solving practical problems using functions, pointers, and library functions for character and string processing.							2
L6	Solving practical problems using functions, structured types, and dynamic structures.							2
L7	Solving practical problems using operations on text and binary files.							2

Basic sources:

1. C Programming Tutorial online, <https://www.w3schools.com/c/>, [2025]
2. Interactive C tutorial online, <https://www.learn-c.org/> [2025]

Additional sources:

1. C Programming Notes for Professionals book, e-book, <https://books.goalkicker.com/CBook/> [2025]