

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:		MI3 Programming Basic II						
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):	summer	Lectures	Classes	Laboratory	Project	Workshop	Seminar	Other
Total number of ECTS credits:	6	15	-	15	-	-	-	-
Form of completion:		Pass with grade						
Prerequisites:		Knowledge of programming basics						
II. LEARNING OBJECTIVES								
Learning objectives:								
Objective 1: Learning the paradigm and basics of object-oriented programming. Objective 2: Gaining practical skills in creating simple applications in an object-oriented language.								
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)								
**								
Code	Course topics in theory							Number of hours
S1	Object-oriented programming: introduction and key concepts.							1
S2	A complete class definition. Using predefined and custom classes.							3
S3	Inheritance, method overriding, encapsulation.							3
S4	Abstract classes, interfaces, polymorphism.							3
S5	Input/output streams in an object-oriented programming language.							2
S6	Working with collection classes and template containers.							3
**								
Code	Course topics in practice							Number of hours
L1	Presentation of the course requirements. Introduction to the programming environment (IDE).							2
L2	Programming simple programs using classes and objects.							3
L3	Programming using inheritance and encapsulation.							3
L4	Programming using polymorphism, abstract classes and interfaces.							3
L5	Programming using object streams of input/output.							2
L6	Programming using predefined classes with collections and templates. Summary of the course.							2
VIII. RECOMMENDED LITERATURE								

Basic sources:

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

Additional sources:

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