

COURSE DESCRIPTION CARD

Faculty of Electrical Engineering									
Field of study	Electrical and Electronics Engineering							Degree level and programme type	bachelor's degree, full time programme
Specialization/ diploma path	-							Study profile	-
Course name	Object-Oriented Programming							Course code	IS-FEE-10062S
								Course type	elective
Forms and number of hours of tuition	L	C	LC	P	SW	FW	S	Semester	summer
					30			No. of ECTS credits	3
Entry requirements	-								
Course objectives	Familiarising students with the methods and structures used in object-oriented programming in C language. Implementation of a project consisting in self-writing the program in C with the practical application of methods of object-oriented programming								
Course content	Pointers and functions. Overloading. An object and a class. Creation and destruction of the object. Objects and pointers. Properties and methods. Overloading of methods and operators. Encapsulation. Inheritance. Polymorphism and virtual methods. Standard Template Library.								
Teaching methods	practical work and reports,								
Assessment method	verification of preparation for classes, evaluation of written programs								
Symbol of learning outcome	Learning outcomes							Reference to the learning outcomes for the field of study	
LO1	Student defines and uses in practice concepts in object-oriented programming								
LO2	Student designs, starts and tests the program in C++ written in accordance with the principles of object-oriented programming								
LO3	Student analyzes and corrects errors in the program								
LO4	Student uses libraries of classes and templates during practical writing of the program								
Symbol of learning outcome	Methods of assessing the learning outcomes							Type of tuition during which the outcome is assessed	
LO1	assessment during the classes, evaluation of the projects								

LO2	assessment during the classes, evaluation of the projects	
LO3	assessment during the classes, evaluation of the projects	
LO4	assessment during the classes, evaluation of the projects,	
Student workload (in hours)		No. of hours
Calculation	participation in the laboratory	30
	preparation for the laboratory	20
	working and description of laboratory reports	20
	participation in student-teacher sessions related to the laboratory classes	5
	analysis and improvement of programs	30
	TOTAL:	105
Quantitative indicators		HOURS
		No. of ECTS credits
Student workload – activities that require direct teacher participation		35
Student workload – practical activities		105
Basic references	1. B. Stroustrup - Programming C - The C++ Programming Language 4th Ed., Addison-Wesley 2013 2. W. Savitch - Absolute C++ 5th Ed., Pearson, 2013 3. B. Stroustrup - A Tour of C++, Addison-Wesley, 2014 4. M. Gregoire - Professional C++, 3rd Ed., Wrox-Wiley, 2016 5. B. Johnson - Professional Visual Studio 2015, Wrox, 2015	
Supplementary references	1. J. Liberty, S. Rao, B. Jones - Teach Yourself C++ in One Hour a Day 8th Ed., SAMS, 2017 2. H. Schildt - C++ The Complete Reference, 4th Ed., McGraw-Hil, 2000	
Organisational unit conducting the course	Department of Photonics, Electronics and Light Technique	Date of issuing the programme
Author of the programme	Adam Nikolajew, Ph.D.	27.01.2020

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work,

S – seminar