SYLLABUS OF A MODULE

Polish name of a module	**Zaawansowane programowanie obiektowe**
English name of a module	**Advanced object programming**
ISCED classification - Code	0613
ISCED classification - Field of study	*Software and applications development and analysis*
Languages of instruction	*English*
Level of qualification	*1 - BSc (EQF 6)*
Number of ECTS credit points	*6*
Examination:	*EW – exam written*

Number of hours per semester:

Lecture	Tutorial	Laboratory	Seminar	Project	Others
30 E	0	30	0	0	0

MODULE DESCRIPTION

Module objectives

C1. a student acquires the advanced object programming knowledge of modern C++
C2. a student acquires the advanced object programming skills of modern C++
C3. a student acquires social competence

PRELIMINARY REQUIREMENTS FOR KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. intermediate English language skills
2. C++ intermediate object programming skills
3. programming skills using Linux

LEARNING OUTCOMES

EU1. a student acquired the advanced object programming knowledge of modern C++
EU2. a student acquired the advanced object programming skills of modern C++
EU3. a student acquired social competence

MODULE CONTENT

Type of classes – lectures	Number of hours
W1: memory model, expression value categories, references	10
W2: move semantics, lambda expressions, containers	10
W3: smart pointers	10
Type of classes– laboratory	**Number of hours**
L1: memory model, expression value categories, references	10
L2: move semantics, lambda expressions, containers	10
L3: smart pointers	10

TEACHING TOOLS

1. lecture
2. lab class
3. test

WAYS OF ASSESSMENT (F – FORMATIVE, S – SUMMATIVE

F1. involvement in lab classes
P1. test

STUDENT'S WORKLOAD

	Forms of activity	Average number of hours required for realization of activity
1.	**Contact hours with teacher**	
1.1	Lectures	30
1.2	Tutorials	0
1.3	Laboratory	30
1.4	Seminar	0
1.5	Project	0
1.6	Consulting teacher during their duty hours	3
1.7	Examination	0
	Total number of contact hours with teacher:	63
2.	**Student's individual work**	
2.1	Preparation for tutorials and tests	0
2.2	Prreparation for laboratory exercises, writing reports on laboratories	20
2.3	Preparation of project	0
2.4	Preparation for final lecture assessment	32
2.5	Preparation for examination	25
2.6	Individual study of literature	10
	Total numer of hours of student's individual work:	87
	Overall student's workload:	150
Overall number of ECTS credits for the module		**6**
Number of ECTS points that student receives in classes requiring teacher's supervision:		2,5
Number of **ECTS** credits acquired during practical classes including laboratory exercises and projects :		2,2

BASIC AND SUPPLEMENTARY RESOURCE MATERIALS

1. Bjarne Stroustrup, The C++ Programming Language, Addison-Wesley, 2013
2. Scott Meyers, Effective Modern C++, O'Reilly, 2014

MODULE COORDINATOR (NAME, SURNAME, INSTITUTE, E-MAIL ADDRESS)

dr inż. Ireneusz Szcześniak, iszczesniak@icis.pcz.pl