

SYLLABUS OF A MODULE

Polish name of a module	Programowanie uogólnione
English name of a module	Generic programming
ISCED classification - Code	0613
ISCED classification - Field of study	<i>Software and applications development and analysis</i>
Languages of instruction	<i>English</i>
Level of qualification	<i>second degree</i>
Number of ECTS credit points	3
Examination	<i>written exam</i>
Available in semester	<i>spring only</i>

Number of hours per semester:

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

MODULE DESCRIPTION

Module objectives

- C1. a student acquires the generic programming knowledge
- C2. a student acquires the generic programming skills
- C3. a student acquires social competence

PRELIMINARY REQUIREMENTS FOR KNOWLEDGE, SKILLS AND OTHER COMPETENCES

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

LEARNING OUTCOMES

- EU1. a student acquired the generic programming knowledge
- EU2. a student acquired the generic programming skills
- EU3. a student acquired social competence

MODULE CONTENT

Type of classes - lectures	Number of hours
W1: introduction, function overloading, kinds of templates and parameters, variadic templates	8
W2: template specialization, template argument deduction, auto type specifier	8
W3: perfect argument forwarding, generic call expressions	7
W4: constraint, concept	7
Type of classes- laboratory	Number of hours
L1: introduction, function overloading, kinds of templates and parameters, variadic templates	8
L2: template specialization, template argument deduction, auto type specifier	8
L3: perfect argument forwarding, generic call expressions	7
L4: constraint, concept	7

TEACHING TOOLS

1. lecture, lab class
2. colloquia

WAYS OF ASSESSMENT (F – FORMATIVE, S – SUMMATIVE)

S1. colloquia

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	0
1.7	Examination	0
Total number of contact hours with teacher:		60
2. Student's individual work		
2.1	Preparation for tutorials and tests	0
2.2	Preparation for laboratory exercises, writing reports on laboratories	10
2.3	Preparation of project	0
2.4	Preparation for final lecture assessment	4
2.5	Preparation for examination	0
2.6	Individual study of literature	1

	Total number of hours of student's individual work:	15
	Overall student's workload:	75
Overall number of ECTS credits for the module		3
	Number of ECTS points that student receives in classes requiring teacher's supervision:	2,4
	Number of ECTS credits acquired during practical classes including laboratory exercises and projects :	1,6

BASIC AND SUPPLEMENTARY RESOURCE MATERIALS

1. Bjarne Stroustrup, The C++ Programming Language, Addison-Wesley, 2013
2. Scott Meyers, Effective Modern C++, O'Reilly, 2014
3. Ireneusz Szczęśniak, Bożena Woźna-Szczęśniak, "Generic Dijkstra, correctness and tractability", Network Management and Operations Symposium, 2023

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

1. dr inż. Ireneusz Szczęśniak, ireneusz.szczesniak@pcz.pl, autor, koordynator
2. dr inż. Jacek Piątkowski, jacek.piatkowski@pcz.pl, koordynator