FACULTY W-8/ DEPARTMENT………………

SUBJECT CARD

Name in Polish Wprowadzenie do programowania
Name in English Introduction to programming
Main field of study (if applicable): ………………………….
Specialization (if applicable): …………………..
Level and form of studies: 1st/ 2nd* level, full-time / part-time*
Kind of subject: obligatory / optional / university-wide*
Subject code INZ0250Wl
Group of courses YES / NO*

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU)	30		30		
Number of hours of total student workload (CNPS)	210				
Form of crediting	Examination / crediting with grade*	Examination / crediting with grade*	Examination / crediting with grade*	Examination / crediting with grade*	Examination / crediting with grade*
For group of courses mark (X) final course	X				
Number of ECTS points	7				
including number of ECTS points for practical (P) classes	3				
including number of ECTS points for direct teacher-student contact (BK) classes	4,2				

*delete as applicable

 PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES
1. The ability to decompose problems in an organized manner.
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SUBJECT OBJECTIVES
C1 Batch programming, redirection, pipelining.
C2 Presentation of structural programming paradigm.
C3 Presentation of the C programming language.
C4 Mastering the usage of programming environment.
C5 Learning to communicate the results of the work.

SUBJECT EDUCATIONAL EFFECTS

relating to knowledge:
PEK_W01 Understanding the structural programming paradigm.
PEK_W02 Understands the necessity of problem structuring.
PEK_W03 Learning the C programming language.
PEK_W04 Knows how to express the results of program analysis with language constructs.
 	
relating to skills:
PEK_U01 Learning the basics of shell programming
PEK_U02 Mastering the usage of development tools.
PEK_U03 Practices the recommended principles of problem implementation and program
    development.
 	
relating to social competences:
PEK_K01 Knows how to concisely and exhaustively communicate the results of her/his word
    in English.

PROGRAMME CONTENT

Form of classes - lecture		Number of hours
Lec 1	Basics of computers and computing, the classification of programming languages.	2
Lec 2	Shell programming, directory structure, redirection, pipelining.	2
Lec 3	A tutorial introduction to the C language.	2
Lec 4	Control flow: Loop and conditional instructions, introduction to variables.	2
Lec 5	Basic data types, variables scope and accessibility rules.	2
Lec 6	Some useful miscellaneous standard functions, recommended programming practices, using the debugger.	2
Lec 7	Operators and expression evaluation.	2
Lec 8	Functions, parameter passing, recursion versus iteration.	2
Lec 9	Proper program structure, getting to know the programming tools: preprocessor, editor, compiler, librarian, profiler	2
Lex 10	Composed data types: arrays and structures,	2
Lec 11	Pointers and typical errors connected with their usage.	2
Lec 12	Heap processing	2
Lec 13	Dynamic structures: queues, lists, trees.	2

Lec 14	File low and high level processing, situational and random access,	2
Lec 15	Final test	2
	Total hours	30

Form of classes - class		Number of hours
Cl 1		
Cl 2		
Cl 3		
Cl 4		
..		
	Total hours	

Form of classes - laboratory		Number of hours
Lab 1	Introductory class, demonstration of system and programming environment.	2
Lab 2	Using simple standard and non standard filters.	2
Lab 3	Shell programming.	2
Lab 4	Implementation of simple filters.	2
Lab 5	Implementation filters with switches.	2
Lab 6	Creating projects, practicing debugger	2
Lab 7	Using string processing functions.	2
Lab 8	Simple interactive programs: calculators and value converters.	2
Lab 9	Simple interactive programs: text searching.	2
Lab 10	Recursive functions.	2
Lab 11	Developing modules for structures processing.	2
Lab 12	Tbe basics of proper pointer usage.	2
Lab 13	Dynamic memory allocation and dynamic data structures.	2
Lab 14	Practical test basic version	2
Lab 15	Test retake or Practical test advanced version.	2
	Total hours	30

Form of classes - project		Number of hours
Proj 1		
Proj 2		
Proj 3		
Proj 4		
…		
	Total hours	

Form of classes - seminar		Number of hours
Sem 1		
Sem 2		
Sem 3		
…		
	Total hours	

TEACHING TOOLS USED
N1. Lectures with multimedia presentations. N2. Presentation of software presentation tools. N3. E-learning system for publication of primary and supplementary course materials. N4. Laboratory work.

EVALUATION OF SUBJECT EDUCATIONAL EFFECTS ACHIEVEMENT

Evaluation (F – forming (during semester), P – concluding (at semester end)	Educational effect number	Way of evaluating educational effect achievement
F1	PEK_W01 PEK_W02 PEK_W03 PEK_W04	Final test checking students' theoretical knowledge and ability to analyze source code. To pass a student has to get at least 50% of all points.
F2	PEK_W03 PEK_W04 PEK_U01 PEK_U02 PEK_U03 PEK_K01	Solving tasks given by the teacher. The student has to explain the way he/she has solved any task and be able to introduce small changes to the solution in an on-line manner. Solving at least 80% of all task is obligatory.
F3	PEK_U01 PEK_U02 PEK_U03	Final test, the basic version. Developing code of 3 tasks provided by the teacher. Solving 2 of them is necessary to pass.
F4	PEK_U02 PEK_U03	Final test, the advanced version. Developing code of 3 tasks provided by the teacher. Solving 2 of them is necessary to pass. The tasks are considerably more complex than in F3. Passing the test is optional. It is necessary only when a student wants to get the grade 4,5 or above.
P1	All effects	The final grade is composed from the following ingredients: 60% F1 20% F2 10% F3 10% F4 The grades are assigned according to the following principle: <40% 2,0 <=40, 50> 3,0 <=50, 60> 3,5

		<=60, 70> 4,0
		<=70, 80> 4,5
		<=80, 90> 5,0
		<=90, 100>= 5,5

C

PRIMARY AND SECONDARY LITERATURE

PRIMARY LITERATURE:

[1] Kernighan B. W., Ritchie D. M.: C Programming Language (2nd Edition), Prentice Hall Software Series
[2] King K.N. - C Programming : A Modern Approach
[3] Gooking D: C for Dummies, Wiley Publishing Inc.

SECONDARY LITERATURE:

[1] Prinz P., Kirch-Prinz U.: C Pocket Reference, O'Reilly
[2] Prinz P., Crawford T.: C in a Nutshell, O'Reilly
[3] Gookin D.: C All-in-One Desk Reference For Dummies, Wiley Publishing Inc.

SUBJECT SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)

Ph.D. Andrzej Siemiński

MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR
SUBJECT
Introduction to Programming
AND EDUCATIONAL EFFECTS FOR MAIN FIELD OF STUDY
Computer Science.
AND SPECIALIZATION …………………………..

Subject educational effect	Correlation between subject educational effect and educational effects defined for main field of study and specialization (if applicable)**	Subject objectives***	Programme content***	Teaching tool number***
PEK_W01 (knowledge)	K1INF_W03, K1INF_W04 K1INF_W10	C2, C3	Lec1-Lec14	N1, N3
PEK_W02	K1INF_W05	C2	Lec 3, Lec 8, Lec 9	N1, N3
PEK_W03	K1INF04	C3	Lec 3, Lec 5, Lec 5, Lec 7	N1, N3
PEK_W04	K1INF_w04	C3, C4	Lec 10, Lec 11, Lec 12, Lec 13, Lec 14	N1, N3
PEK_U01 (skills)	K1INF_U01, K1INF_W05	C1	Lab1-Lab3	N2, N4
PEK_U02	K1INF_U01, K1INF_W05	C4	Lab 6	N2, N4
PEK_U03	K1INF_U01, K1INF_W05	C2, C3	Lab 4-Lab5 Lab7-Lab13	N2, N4
PEK_K01 (competences)	K1INF_K06	C5	Lab1-Lab13	N2, N4

** - enter symbols for main-field-of-study/specialization educational effects

*** - from table above