SYLLABUS[1]

1. Information about the program

1.1 Higher education institution	Politehnica University Timisoara
1.2 Faculty[2] / Department[3]	Electronics and Telecommunications / Automation and Applied Informatics
1.3 Chair	—
1.4 Field of study (name/code[4])	Electronics and Telecommunications (in English)
1.5 Study cycle	Bachelor
1.6 Study program (name/code)/Qualification	Electronics and Telecommunications (in English) / Engineer

2. Information about the discipline

2.1 Name of discipline			Applied Computer Programming				
2.2 Coordinator (holder) of course activities			Lect.eng. Adriana ALBU, PhD.				
2.3 Coordinator (holder) of applied activities [5]			Lect.eng. Adriana ALBU, PhD.				
2.4 Year of study[6]	1	**2.5** Semester	2	**2.6** Type of evaluation	D	**2.7** Type of discipline	Mandatory

3. Total estimated time (hours / semester of didactic activities)

3.1 No. of hrs. / week	4 , of which:	**3.2** course	2	**3.3** seminar/laboratory/ project/training	2
3.4 Total no. of hrs. in the education curricula	56 , of which:	**3.5** course	28	**3.6** applied activities	28
3.7 Distribution of time for individual activities related to the discipline					hrs.
Study using a manual, course materials, bibliography and lecture notes					5
Additional documentation in the library, on specialized electronic platforms and on the field					
Preparation for seminars / laboratories, homeworks, assignments, portfolios, and essays					5
Tutoring					
Examinations					2
Other activities					
Total hrs. of individual activities					12
3.8 Total hrs. / semester[7]	68				
3.9 No. of credits	3				

4. Prerequisites (where applicable)

4.1 Curriculum	• Introduction to Computer Programming
4.2 Competencies	• Programming basics using the C programming language

5. Conditions (where applicable)

5.1 of the course	• Projector and whiteboard
5.2 to conduct practical activities	• 15 computers (with C programming environment), projector and whiteboard

6. Specific competencies acquired

[1] The form corresponds to the Syllabus promoted by OMECTS 5703/18.12.2011 (Annex3).
[2] The name of the faculty which manages the educational curriculum to which the discipline belongs.
[3] The name of the department entrusted with the discipline, and to which the course coordinator / holder belongs.
[4] Fill in the code provided in GD no. 493/17.07.2013.
[5] The applied activities refer to: seminar (S) / laboratory (L) / project (P) / practice/training (Pr).
[6] The year of study to which the discipline is provided in the curriculum.
[7] It is obtained by summing up the number of hrs. from 3.4 and 3.7.

Professional competencies[8]	• Aplicarea cunoştinţelor, conceptelor şi metodelor de bază privitoare la arhitectura sistemelor de calcul, microprocesoare, microcontrolere, limbaje şi tehnici de programare • Conceperea, implementarea şi operarea serviciilor de date, voce, video, multimedia, bazate pe înţelegerea şi aplicarea noţiunilor fundamentale din domeniul comunicaţiilor şi transmisiunii informaţiei
Transversal competencies	• Analiza metodică a problemelor întâlnite în activitate, identificând elementele pentru care există soluţii consacrate, asigurând astfel îndeplinirea sarcinilor profesionale • Adaptarea la noile tehnologii, dezvoltarea profesională şi personală, prin formare continuă folosind surse de documentare tipărite, software specializat şi resurse electronice în limba română şi, cel puţin, într-o limbă de circulaţie internaţională

7. Objectives of the discipline (based on the grid of specific competencies acquired)

7.1 General objective of the discipline	• Thoroughgoing study of the programming field, with specific examples in the C programming language.
7.2 Specific objectives	• Acquiring particular knowledge of programming that can be applied on specific domains. • Designing and implementing complex C programs. • Creating a correct programming style.

8. Content

8.1 Course	No. of hours	Teaching methods
		Presentation of theoretical aspects, examples, discussions, solved problems, questions
User-defined functions (The prototype of a function, The description of a function, The call of a function, The scope of variables, Changing the arguments of a function, Passing arrays as arguments)	3	
Recursion	3	
User-defined types (The structure, The enumeration, The union)	6	
Files (File handling, Header files)	6	
Representation of numbers	2	
Bitwise operators	2	
Dynamic memory allocation	3	
Macros (Object-like macros, Function-like macros)	3	

[8] The professional competencies and the transversal competencies will be treated according to the Methodology of OMECTS 5703/18.12.2011. The competencies listed in the National Register of Qualifications in Higher Education [Registrul Naţional al Calificărilor din Învăţământul Superior RNCIS] (http://www.rncis.ro/portal/page?_pageid=117,70218&_dad=portal&_schema=PORTAL) will be used for the field of study from 1.4 and the program of study from 1.6 of this form, involving the discipline.

Bibliography[9]

1. Adriana ALBU: "Computer Programming – The C Language", Conspress, Bucuresti 2013, ISBN 978-973-100-270-5
2. Brian KERNIGHAN, Dennis RITCHIE: "The C Programming Language", 2nd Edition, Prentice-Hall, 1988, ISBN 0-13-110370-9
3. "Programming Tutorials – C Tutorial", http://www.cprogramming.com/tutorial/c-tutorial.html, accessed: February 2015

8.2 Applied activities[10]	No. of hours	Teaching methods
Laboratory:		Theoretical presentations, discussions, explanations, case studies
User-defined functions	6	
User-defined types	6	
Files	6	
Representation of Numbers	2	
Bitwise Operators	2	
Dynamic Memory Allocation	4	
Macros	2	

Bibliography[11]

1. Adriana ALBU: "Computer Programming – The C Language", Conspress, Bucuresti, 2013, ISBN 978-973-100-270-5

9. Corroboration of the content of the discipline with the expectations of the main representatives of the epistemic community, professional associations and employers in the field afferent to the program

- The programming is important for all disciplines (belonging to the curriculum of this study program) that have connections to software development (e.g. Object Oriented Programming).
- Main representative employers in the field of this study program ask for applied knowledge of the C programming language.

10. Evaluation

Type of activity	**10.1** Evaluation criteria	**10.2** Evaluation methods	**10.3** Share of the final grade
10.4 Course	Two multiple choices written tests (30 theoretical and practical questions; each question has five possible answers of which one only is correct)	Written examination	2/3
10.5 Applied activities	**S:**		
	L: Two practical tests (the following aspects are appreciated: a proper implementation, an adequate way of presenting solutions,	Practical examination (on a computer)	1/3

[9] At least one title must belong to the department staff teaching the discipline, and at least 3 titles must refer to national and international works relevant for the discipline, and which can be found in the Politehnica University Library.
[10] The types of applied activities are those specified in footnote 5. If the discipline contains several types of applied activities, then these will be written consecutively in the lines of the table below. The type of activity will be written in a distinct line, as „Seminar:", „Laboratory:", „Project:" and/or „Practice/Training:".
[11] At least one title must belong to the staff teaching the discipline.

	correct answers to the questions)		
	P:		
	Pr:		

10.6 Minimum performance standard (minimum amount of knowledge necessary to pass the discipline and the way in which this knowledge is verified)

- In order to pass the multiple choices written tests, 50% of the questions must have correct answers (for each test).
- The practical tests are passed if the programs are functional and solve the minimum requirements.
- The final mark is calculated only if the student obtains marks greater than or equal to 5 for all the examinations (written and practical).

Date of completion	**Course coordinator (signature)**	**Coordinator of applied activities (signature)**
	.....	.....
Head of Department (signature)	**Date of approval in the Faculty Council**[12]	**Dean (signature)**
.....		.....

[12] Avizarea este precedată de discutarea punctului de vedere al board-ului de care aparţine programul de studiu cu privire la fişa disciplinei.