

SYLLABUS ¹

THIS COURSE UNIT IS TAUGHT IN ROMANIAN LANGUAGE

1. Information about the program

1.1 Higher education institution	University POLITEHNICA Timisoara
1.2 Faculty ² / Department ³	Electrotehnic and Electroenergetical / Electrical Engineering
1.3 Chair	—
1.4 Field of study (name/code ⁴)	Electrical Engineering / 90
1.5 Study cycle	licence
1.6 Study program (name/code/qualification)	Electrotehnic / 30

2. Information about the discipline

2.1 Name of discipline/ formative category ⁵	Introduction in programming computers						
2.2 Coordinator (holder) of course activities	Marcus SVOBODA						
2.3 Coordinator (holder) of applied activities ⁶	Antheia DEACU / Marcus SVOBODA						
2.4 Year of study ⁷	1	2.5 Semester	1	2.6 Type of evaluation	Distributed evaluation	2.7 Type of discipline ⁸	DI

3. Total estimated time – hours / semester: direct teaching activities (fully assisted or partly assisted) and individual training activities (unassisted) ⁹

3.1 Number of fully assisted hours / week	6 of which:	3.2 course	3	3.3 seminar / laboratory / project	3
3.1* Total number of fully assisted hours / semester	70 of which:	3.2* course	28	3.3* seminar / laboratory / project	42
3.4 Number of hours partially assisted / week	of which:	3.5 training		3.6 hours for diploma project elaboration	
3.4* Total number of hours partially assisted / semester	of which:	3.5* training		3.6* hours for diploma project elaboration	
3.7 Number of hours of unassisted activities / week	of which:	additional documentary hours in the library, on the specialized electronic platforms and on the field			
		hours of individual study after manual, course support, bibliography and notes			
		training seminars / laboratories, homework and papers, portfolios and essays			
3.7* Number of hours of unassisted activities / semester	30 of which:	additional documentary hours in the library, on the specialized electronic platforms and on the field			10
		hours of individual study after manual, course support, bibliography and notes			5
		training seminars / laboratories, homework and papers, portfolios and essays			15
3.8 Total hours / week ¹⁰	12				
3.8* Total hours /semester	112				
3.9 Number of credits	5				

4. Prerequisites (where applicable)

¹ The form corresponds to the Discipline File promoted by OMECTS 5703 / 18.12.2011 and to the requirements of the ARACIS Specific Standards valid from 01.10.2017.

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 The code provided in HG no.140 / 16.03.2017 or similar HGs updated annually shall be entered.

⁵ Discipline falls under the educational curriculum in one of the following formative disciplines: Basic Discipline (DF), Domain Discipline (DD), Specialist Discipline (DS) or Complementary Discipline (DC).

⁶ Application activities refer to: seminar (S) / laboratory (L) / project (P) / practice/training (Pr).

⁷ Year of studies in which the discipline is provided in the curriculum.

⁸ Discipline may have one of the following regimes: imposed discipline (DI), optional discipline (DO) or optional discipline (Df).

⁹ The number of hours in the headings 3.1 *, 3.2 *, ..., 3.8 * is obtained by multiplying by 14 (weeks) the number of hours in headings 3.1, 3.2, ..., 3.8. The information in sections 3.1, 3.4 and 3.7 is the verification keys used by ARACIS as: (3.1) + (3.4) ≥ 28 hours / wk. and (3.8) ≤ 40 hours / wk.

¹⁰ The total number of hours / week is obtained by summing up the number of hours in points 3.1, 3.4 and 3.7.

4.1 Curriculum	•
4.2 Competencies	•

5. Conditions (where applicable)

5.1 of the course	• Basic math, basic PC knowledge
5.2 to conduct practical activities	• Basic math, basic PC knowledge

6. Specific competencies acquired through this discipline

Specific competencies	<ul style="list-style-type: none"> • Logical understand of problems, elaborate and develop algoritms for specifical problems • Operating with fundamental concepts in computer science and information technology
Professional competencies ascribed to the specific competencies	<ul style="list-style-type: none"> • Programming computers, microcontrollers and PLC for industry, embedded systems
Transversal competencies ascribed to the specific competencies	<ul style="list-style-type: none"> • A good understanding for problems, develop codes in different programming languages • Efficient use of information sources and assisted communication and training resources (Internet portals, specialized software applications, databases, online courses, etc.) both in Romanian and in a language of international circulation

7. Objectives of the discipline (based on the grid of specific competencies acquired - pct.6)

7.1 The general objective of the discipline	<ul style="list-style-type: none"> • Learn logic of programing - algorithms
7.2 Specific objectives	<ul style="list-style-type: none"> • Future understanding of programming language

8. Content ¹¹

8.1 Course	Number of hours	Teaching methods ¹²
Introduction in computer programming	3	Oral presentation/electronic resources
Goals of programming	3	
Binar system, binar operation	3	
Octal system	3	
Hexazecimal system	3	
Conversion between numbering bases	3	
Logical shemes – linear structures, decisional structures, cyclic structures	3	
Pseudocode	3	
Algorithms	3	

¹¹ It details all the didactic activities foreseen in the curriculum (lectures and seminar themes, the list of laboratory works, the content of the stages of project preparation, the theme of each practice stage). The titles of the laboratory work carried out on the stands shall be accompanied by the notation "(*)".

¹² Presentation of the teaching methods will include the use of new technologies (e-mail, personalized web page, electronic resources etc.).

Bibliography ¹³		
1. Course notice – autor M. Svoboda		
2. Introducere In Ingineria Programarii Calculatoarelor – indrumator de laborator autor A. Deacu		
3. http://www.science.upm.ro/~traian/web_curs/Cpp/s_logice/s_logice.html		
4. Introducere in Algoritmi – autori Thomas H. Cormen, Ronald R Rivest		
8.2 Applied activities ¹⁴	Number of hours	Teaching methods
Microsoft Suite - Word	3	Oral presentation/ virtual board
Microsoft Suite - Excel	3	
Microsoft Suite - PowerPoint	3	
Binary operation	3	
Binary –decimal ; decimal – binary transformation	3	
Binary – octal; octal –binary transformation	6	
Hex – decimal – binary, binary-decimal-hex transformation	3	
Logical schemes with different types of structures – practical examples	9	
Pseudocode and algorithms- practical examples	9	
Bibliography ¹⁵		
1. Introducere In Ingineria Programarii Calculatoarelor – indrumator de laborator autor A. Deacu		
2. http://www.science.upm.ro/~traian/web_curs/Cpp/s_logice/s_logice.html		
3. Introducere in Algoritmi – autori Thomas H. Cormen, Ronald R Rivest		

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

<ul style="list-style-type: none"> It provides basic knowledge of computer architecture, logic schemes pseudocode and algorithms, knowledge necessary for further development as an engineer

10. Evaluation

Type of activity	10.1 Evaluation criteria ¹⁶	10.2 Evaluation methods	10.3 Share of the final grade
10.4 Course	Questions regarding the topics presented in the course	Write exam / oral presentation	
10.5 Applied activities	S:		
	L: Correct solving the assignments during the semester	Test - oral presentation	
	P ¹⁷ :		
	Pr:		
10.6 Minimum performance standard (minimum amount of knowledge necessary to pass the discipline and the way in which this knowledge is verified ¹⁸)			
<ul style="list-style-type: none"> 5/10 			

Date of completion

Course coordinator

Coordinator of applied activities

¹³ At least one title must belong to the discipline team and at least one title should refer to a reference work for discipline, national and international circulation, existing in the UPT library.

¹⁴ Types of application activities are those specified in footnote 5. If the discipline contains several types of applicative activities then they are sequentially in the lines of the table below. The type of activity will be in a distinct line as: "Seminar:", "Laboratory:", "Project:" and / or "Practice/training".

¹⁵ At least one title must belong to the discipline team.

¹⁶ Syllabus must contain the procedure for assessing the discipline, specifying the criteria, methods and forms of assessment, as well as specifying the weightings assigned to them in the final grade. The evaluation criteria shall be formulated separately for each activity foreseen in the curriculum (course, seminar, laboratory, project). They will also refer to the forms of verification (homework, papers, etc.)

¹⁷ In the case where the project is not a distinct discipline, this section also specifies how the outcome of the project evaluation makes the admission of the student conditional on the final assessment within the discipline.

¹⁸ It will not explain how the promotion mark is awarded.

27.11.2020

**Head of Department
(signature)**

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(signature)

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**Date of approval in the Faculty
Council ¹⁹**



(signature)

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**Dean
(signature)**

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¹⁹ The endorsement is preceded by the discussion of the board's view of the study program on the discipline record.