UNIVERSITY OF PETROSANI
MECHANICAL AND ELECTRICAL ENGINEERING FACULTY

CURRICULUM PLAN
Starting with the 2018-2019 academic year

Study Program:	**COMPUTERS**
Fundamental Field:	**ENGINEERING**
Bachelor Field:	**COMPUTERS AND INFORMATION TECHNOLOGY**
Academic studies:	**4 YEARS**
Mode of studies: *full-time (F)/ low frequency (IFR)/ distance learning (ID)*	***FULL-TIME* (F)**

TRAINING OBJECTIVES AND COMPETENCES

General objective of the curriculum: the training of specialists with high theoretical and practical learning for the computers engineering, design and research sectors. The main mission of this study program is to prepare engineers with competencies in the field of Computers and Information Technology, able to work in any engineering field in which using of Computers and Information Technology knowledge is appropriate.

Specific objectives of the curriculum: knowledge transmission and necessary skills formation to acquire the following competencies.

Proffesional competences:

C1-Operation with fundamental issues from science, engineering and computer science
C2-Design of hardware, software and communication elements
C3-Problem solving using science and computer engineering tools
C4-Performance improvement for the hardware, software and communication systems
C5-Hardware, software and communication systems design, lifecycle management, integration and integrity.
C6-Intelligent systems design

Transversal competences:

CT1 - Identification, description and implementation of the project management processes, taking different roles in a team and clear and concise description, verbal or written, in Romanian and in an international language, of the results from the field of activity.

CT2 - Prove spirit of initiative and action to update professional, economic and organizational culture related knowledge**.**

CT3 - Honorable, responsible, ethical behavior, in the spirit of the law to ensure the reputation of the profession.

RECTOR,

Professor Ph.D. Sorin Mihai RADU

DEAN,

Associate Professor Ph.D. Iosif DUMITRESCU

UNIVERSITY of PETROȘANI **MINISTRY of NATIONAL EDUCATION**

Faculty: Mechanical and Electrical Engineering

Field: **Computers and Information Technology**

Study program: **Computers Engineering**

Engineers - IF, 4 years x 2 sem./year x 14 weeks./sem. x (26-28) hours/week.

STUDY PLAN

valid beginning with academic year 2017 - 2018

No.	FIRST YEAR	Subject code	Subj. tipe	Semester 1				Semester 2				ECTS		Ei, Ci, Vi		No. of hours teaching/subject			Total hours of individual study	Total hours per subject
	Subject			C	S	L	P	C	S	L	P	Sem.1	Sem.2	Sem.1	Sem.2	Course	Applic.	Total		
1	Linear Algebra, Analytical and Differential Geome	2CC1OF01	F	2	2							5		E1		28	28	56	69	125
2	Mathematical Analysis	2CC1OF02	F	2	2							4		E1		28	28	56	44	100
3	Applied Informatics	2CC1OF03	F	3		3						6		E1		42	42	84	66	150
4	Electrotechnics	2CC1OD04	D	3		2						6		E1		42	28	70	80	150
5	Chemistry	2CC1OF05	F	2		1						4		C1		28	14	42	58	100
6	Optional course 11	2CC1OX06	X	1		1						2		C1		14	14	28	22	50
7	English Language I	2CC1OX07	X		2							2		C1		0	28	28	22	50
8	Physical Education	2CC1OX08	X		2							1		C1		0	28	28	0	28
9	Algorithms design	2CC2OD09	D					3		2			6		E2	42	28	70	80	150
10	Computer Aided Graphics	2CC2OF10	F					3		2			6		E2	42	28	70	80	150
11	Computer Programming, Programming Languages	2CC2OF11	F					3		2			6		E2	42	28	70	80	150
12	Electronic Devices and Analogical Electronics	2CC2OX12	F					3		2			6		E2	42	28	70	80	150
13	Physics	2CC2OF13	F					2		2			3		C2	28	28	56	19	75
14	English Language II	2CC2OX14	X						2				2		C2	0	28	28	22	50
15	Physical Education II	2CC2OX15	X						2				1		C2	0	28	28	0	28
												30	**30**							
TOTAL FIRST YEAR				**13**	**8**	**7**	**0**	**14**	**4**	**10**	**0**	**60**		**8E + 7C**		**378**	**406**	**784**	**722**	**1506**

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No.	SECOND YEAR	Subject code	Subj. tipe	Semester 3				Semester 4				ECTS		Ei, Ci, Vi		No. of hours teaching/subject			Total hours of individual study	Total hours per subject
	Subject			C	S	L	P	C	S	L	P	Sem.1	Sem.2	Sem.1	Sem.2	Course	Applic.	Total		
16	Optional course 21	2CC3AF16	F	2	2							5		E3		28	28	56	69	125
17	Logic design	2CC3OD17	D	3	1	2						6		E3		42	42	84	66	150
18	Computer Programming, Programming Languages	2CC3OF18	F	3		2						6		E3		42	28	70	80	150
19	Databases	2CC3OD19	D	2		2						4		C3		28	28	56	44	100
20	Electronic measurements, sensors and transducers	2CC3OD20	D	3		2						6		E3		42	28	70	80	150
21	English Language III	2CC3OX21	X		2							2		C3		0	28	28	22	50
22	Physical Education III	2CC3OX22	X		2							1		C3		0	28	28	0	28
23	Digital electronics	2CC4OD23	D					3		2			5		E4	42	28	70	55	125
24	Software engineering	2CC4OD24	D					2		2	1		5		E4	28	42	70	55	125
25	Object oriented programming I	2CC4OD25	D					2		2			4		E4	28	28	56	44	100
26	Systems Theory I	2CC4OD26	D					3		2			5		E4	42	28	70	55	125
27	Computer Architecture	2CC4OD27	D					3		2			4		C4	42	28	70	30	100
28	English Language IV	2CC4OX28	X						2				2		C4	0	28	28	22	50
29	Physical Education IV	2CC4OX29	X						2				1		C4	0	28	28	0	28
30	Field Practice (3 weeks × 30 hours/week)	2CC4OD30	D										4		C4	0	90	90	30	120
TOTAL SECOND YEAR				**13**	**7**	**8**	**0**	**13**	**4**	**10**	**1**	**30** **60**	**30**	**8E + 7C**		**364**	**510**	**874**	**652**	**1526**

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STUDY PLAN

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No.	THIRD YEAR	Subject code	Subj. tipe	Semester 5				Semester 6				ECTS		Ei, Ci, Vi		No. of hours teaching/subject			Total hours of individual study	Total hours per subject
	Subject			C	S	L	P	C	S	L	P	Sem.1	Sem.2	Sem.1	Sem.2	Course	Applic.	Total		
31	Human-machine interaction	2CC5OS31	S	2		2						5		C5		28	28	56	69	125
32	Microprocessor design	2CC5OD32	D	2		2						4		E5		28	28	56	44	100
33	Microprocessor design	2CC5OD33	D				1					2		C5		0	14	14	36	50
34	Systems theory II	2CC5OD34	D	2		2						5		E5		28	28	56	69	125
35	Robot Control Systems	2CC5OS35	S	3		2						5		E5		42	28	70	55	125
36	Modeling and simulation	2CC5OD36	D	3		2						6		E5		42	28	70	80	150
37	Optional course 31	2CC5AS37	S	2	1							3		C5		28	14	42	33	75
38	Microcontrollers	2CC6OS38	S					2		2			4		E6	28	28	56	44	100
39	Microcontrollers	2CC6OS39	S								1		2		C6	0	14	14	36	50
40	Numeric computers	2CC6OD40	D					3		2			5		E6	42	28	70	55	125
41	Formal languages and translators	2CC6OD41	D					3		2			4		E6	42	28	70	30	100
42	Optional course 32	2CC6AS42	S					2		1			3		C6	28	14	42	33	75
43	Artificial intelligence	2CC6OD43	D					2		2			4		E6	28	28	56	44	100
44	Optional course 33	2CC6AS44	S					2		2			4		C6	28	28	56	44	100
45	Practice III (3 weeks × 30 hours/week)	2CC6OS45	S										4		C6	0	90	90	30	120
TOTAL THIRD YEAR				**14**	**1**	**10**	**1**	**14**	**0**	**11**	**1**	**30** **60**	**30**	**8E + 7C**		**392**	**426**	**818**	**702**	**1520**

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No.	FOURTH YEAR	Subject code	Subj. tipe	Semester 5				Semester 6				ECTS		Ei, Ci, Vi		No. of hours teaching/subject			Total hours of individual study	Total hours per subject
	Subject			C	S	L	P	C	S	L	P	Sem.1	Sem.2	Sem.1	Sem.2	Course	Applic.	Total		
46	Computers Networks	2CC7OS46	S	2		2						5		E7		28	28	56	69	125
47	Elements of mobile informatics	2CC7OS47	S	2		2						5		E7		28	28	56	69	125
48	Multimedia systems	2CC7OS48	S	2		2						5		E7		28	28	56	69	125
49	Optional course 41	2CC7AD49	D	3		2	1					6		E7		42	42	84	66	150
50	Optional course 42	2CC7AS50	S	2		2						5		C7		28	28	56	69	125
51	Optional course 43	2CC7AS51	S	2		2						4		C7		28	28	56	44	100
52	Computer networks design	2CC8OS52	S					2		2	1		5		E8	28	42	70	55	125
53	Optional course 44	2CC8AS53	S					2		2			4		E8	28	28	56	44	100
54	Optional course 45	2CC8AS54	S					2		2			3		E8	28	28	56	19	75
55	Optional course 46	2CC8AD55	D					3		2			5		E8	42	28	70	55	125
56	Communication protocols	2CC8OS56	S					2		2			4		C8	28	28	56	44	100
57	Project elaboration	2CC8OS57	S								4		4		C8	0	56	56	44	100
58	Practice for project elaboration	2CC8OS58	S										5		C8	0	60	60	65	125
	TOTAL FOURTH YEAR			**13**	**0**	**12**	**1**	**11**	**0**	**10**	**5**	**30** **60**	**30**	**8E + 5C**		**336**	**452**	**788**	**712**	**1500**
59	Diploma project											10								

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OPTIONAL SUBJECTS				
No.	Code	Study year	Subject	
6	OP 11	I	Communication	Ethics and Academic Integrity
16	OP 21	II	Special Mathematics	Numerical Methods
37	OP 31	III	eCommerce	Web applications design
42	OP 32	III	Software reliability	Information retrieving
44	OP 33	III	Intelligent systems	Knowledge based systems
49	OP 41	IV	Data acquisition and processing	Virtual instrumentation
50	OP 42	IV	Image processing	graphical processing
51	OP 43	IV	User interface design	input-output systems and peripheral devices
53	OP 44	IV	Software design	Database design
54	OP 45	IV	Projects management	Project design Methodology
55	OP 46	IV	operating systems	logic programming

FACULTATIVE SUBJECTS																
No	Subject	Code	Study year	Semester 1			Semester 2			ECTS	Ei Ci	No.hours			Prep hours	Total hours
				C	S	L	C	S	L			Course	App	Total		
60	General economics	2SA2LX61	I				1	1		2	C2	14	14	28	22	50
61	human-machine interaction	2CC4LS62	II				2		2	3	C4	28	28	56	19	75
62	French I / german I / spanish language I	2CC5LX63	III		2					2	C5	0	28	28	22	50
63	Environment protection	2SA5LX64	III	1		1				2	C5	14	14	28	22	50
64	French II / german II / spanish language II	2CC6LX65	III					2		2	C6	0	28	28	22	50
65	Data security	2CC6LS66	III				2		2	4	C6	28	28	56	44	100
66	Entrepreneurship	2CC7LX67	IV	2	1					2	C7	28	14	42	8	50
67	pattern recognition systems	2CC7LS68	IV	1		2				3	C7	14	28	42	33	75
68	Career counseling and guidance	2SA8LX69	IV				1	1		2	C8	14	14	28	22	50
69	Advanced database systems	2CC8LS70	IV				2		2	3	C8	28	28	56	19	75

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