

UNIVERSITY OF PETROSANI

Faculty MECHANICAL AND ELECTRICAL ENGINEERING

Field POWER ENGINEERING

 Study Program **Industrial Power Engineering**

Engineers - IF, 4 years x 2 sem./year x 14 weeks./sem. x 28 hours/week., 4 weeks. main exam's sessions/sem.

MINISTRY of NATIONAL EDUCATION

STUDY PLAN
valid beginning with academic year 2009 - 2010

No.	FIRST YEAR		Semester 1				Semester 2				Prepare hours	Credit points		Ex, C, V		No. of hours		
	Courses	Courses code	C	S	L	P	C	S	L	P		Sem.1	Sem.2	Sem.1	Sem.2	Class	Apl.	Tot.
1	Linear Algebra, Analytical and Differential Geometry	2II1OF01	2	2							2	5		E1		28	28	56
2	Mathematical Analysis	2II1OF02	2	2							2	5		E1		28	28	56
3	Elements of Theoretical Mechanics	2II1OD03	2		1						1	3		E1		28	14	42
4	Computer Programming	2II1OF04	2		2						2	5		E1		28	28	56
5/6	Optional course OP 11 - I,II	2II1/2AX05/06		2				2			1	1	2	V1	V2	0	56	56
7/8	Basics of Electrical Engineering I,II	2II1/2OD07/08	3	2			2	1	2		2	3	5	E1	E2	70	70	140
9	Optional course OP12	2II1AX09	1	1							1	2		V1		14	14	28
10	Chemistry	2II1OF10	2		1						1	3		V1		28	14	42
11	Computer Aided Graphics	2II2OF11					1		2		1		4		V2	14	28	42
12	Physics	2II2OF12					2		2		1		3		E2	28	28	56
13	Special Mathematics	2II2OF13					2	2			2		4		E2	28	28	56
14	Introduction to Power Engineering	2II2OD14					2		1		1		3		E2	28	14	42
15	Technological Methods and Procedures	2II2OD15					2		1		1		3		V2	28	14	42
16	Analog and digital electronics	2II2OD16					3		2		2		5		E2	42	28	70
TOTAL hours C, S, L, P /week.			14	9	4	0	14	5	10	0	12/12	30	30	5E,3V	5E,3V	392	392	784
17	Sport*	2II1/2OX17			2				2						A/R			56

No.	SECOND YEAR		Semester 3				Semester 4				Prepare hours	Credit points		Ex, C, V		No. of hours		
	Courses	Courses code	C	S	L	P	C	S	L	P		Sem.1	Sem.2	Sem.1	Sem.2	Class	Apl.	Tot.
18	Numerical Methods	2II3OF18	2	1	1						2	5		E3		28	28	56
19	Basics of Hydraulics	2II3OD19	2		2						2	5		E3		28	28	56
20	Basics of Thermodynamics	2II3OD20	2		2						2	5		E3		28	28	56
21	Materials Strength	2II3OD21	2		2						2	3		E3		28	28	56
22/23	Optional course OP21 -I,II	2II3/4AX22/23		2				2			1	1	2	V3	V4	0	56	56
24	Sensors and Transducers	2II3OS24	3		2						2	5		E3		42	28	70
25	Hydraulic Machines	2II3OD25	2		2						2	5		V3		28	28	56
26	Heat and mass transfer	2II4OD26					2		1		1		3		V4	28	14	42
27	Measurement of Electrical and Non-Electrical Values I	2II4OD27					3		2		2		5		E4	42	28	70
28	Electrotechnical Materials	2II4OS28					2		1		1		3		E4	28	14	42
29	Optional course OP22	2II4AF29					2		2		2		4		V4	28	28	56
30	Programming Languages	2II4OF30					2		2		1		3		E4	28	28	56
31	Electrical Machines and Drives I	2II4OD31					3		2		2		5		E4	42	28	70
32	Hydraulic and Pneumatic Drives	2II4OD32					2		1		1		3		E4	28	14	42
33	Practical Training I, 3weeks. × 40 h/week.	2II2OX33											2		C4			120
TOTAL hours C, S, L, P /week.			13	3	11	0	16	2	11	0	13/11	30	30	5E,2V	5E,3V, 1C	406	378	904

No.	THIRD YEAR		Courses code	Semester 5				Semester 6				Prepare hours	Credit points		Ex ,C, V		No. of hours		
	Courses			C	S	L	P	C	S	L	P		Sem.1	Sem.2	Sem.1	Sem.2	Class	Apl.	Tot.
34	Optional course OP31		2II5AF34	2	1							1	3		V5		28	14	42
35	Optional course OP32		2II5AD35	3		2						2	5		E5		42	28	70
36	Electrical Machines and Drives II		2II5OD36	3		2	1					2	6		E5		42	42	84
37	Measurement of Electrical and Non-Electrical Values II		2II5OD37	2		2						2	5		E5		28	28	56
38	Thermal Equipment and Installations		2II5OD38	2		1						2	5		V5		28	14	42
39	Regenerable Sources		2II6OD39					2		2		2	4		V6		28	28	56
40/41	Partea electrica a centralelor si statiilor I,II		2II5/6OD40/41	2		2		2		1		2	1	3	E5	E6	56	42	98
42	Optional course OP 33		2II6AS42					2		2		2	4		V6		28	28	56
43/44	Electric Section of Plants and Stations I,II		2II5/6OD43/43	2		1		2		1		1	1	3	E5	E6	56	28	84
45	Optional course OP34		2II6AS45					3		2		2	5		E6		42	28	70
46	CAD Techniques in Power Engineering		2II6OS46					2		2		2	4		E6		28	28	56
47	Systems Theory and Automatic Control		2II6OD47					3		2		2	5		E6		42	28	70
48	Practical Training II, 3weeks. × 40 h/week.		2II2OX48										2		C6				120
TOTAL				16	1	10	1	16	0	12	0	12/12	30	30	5E,2V	5E,2V, 1C	448	336	904

No.	FOURTH YEAR		Courses code	Semester 7				Semester 8				Prepare hours	Credit points		Ex ,C, V		No. of hours			
	Courses			C	S	L	P	C	S	L	P		Sem.1	Sem.2	Sem.1	Sem.2	Class	Apl.	Tot.	
49/50	Optional course OP41 - I,II		2II7/8AS49/50	3		1		2		1	1	3	2	5	4	E7	E8	70	42	112
51	Static Convertors		2II7OS51	2		2						2	5		E7		28	28	56	
52	Modelling and Simulation in Power Engineering		2II7OS52	3		2	2					2	5		E7		42	56	98	
53	Optional course OP42		2II7AD53	2	1							1	3		V7		28	14	42	
54	Power Market		2II7OS54	2		1						2	5		E7		28	14	42	
55	Power Balances		2II8OS55	1		1		1		1		2	2	2	V7	V8	28	28	56	
56	Monitoring and Control Systems		2II8OS56					2		1		2	3		E8		28	14	42	
57	Reliability of Power Installations		2II8OD57					2		2		2	4		E8		28	28	56	
58/59	Optional coursea OP43 - I,II		2II7/8AS58/59	3		2		2		1	1	2	2	5	E7	E8	70	56	126	
60	Electromagnetic Compatibility		2II8OS60					2		1		2	3		V8		28	14	42	
61	Elaboration of graduation paper, 14 weeks × 8 h/week.		2II8OS61								8		10		C8		0	112	112	
TOTAL				16	1	9	2	11	0	7	10	12/12	30	30	5E,1V	5E,1V	378	406	784	

Annex I

	Facultative Courses	Courses code	Sem.	C	S	L	Credit Points	Ex, C, V	No. of hours		
									Class	Apl.	Tot.
62	Energy Audit I,II	2EE1/2LX61	1,2	2	1		3,3	C1,2	56	28	84
63	Data Structures in Power Engineering	2EE2LX62	2	2	1		3	C2	28	14	42
64	Data Acquisition Systems in Power Engineering	2EE3LX63	3	2	1		3	C3	28	14	42
65	Sport	2EE3/4LX64	3,4		2		2	C3,4		28	28
66	Foreign Languages V-VIII	2EE5-8LX65	5-8		2		2,2,2,2	C5-8		112	112
67	Energy and Environment	2EE6LX66	6	2	1		2	C6	28	14	42

Annex II

Optional Courses			
An	Code	Courses	
I	OP11 - I,II	Foreign Languages (English, French, German, Russian, Spanish)	
I	OP12	History of Culture and Civilization	Professional Communication
II	OP21 - I,II	Foreign Languages (English, French, German, Russian, Spanish)	
II	OP22	Mechanisms and Machine Parts	Engineering of Mechanical Systems
III	OP31	Basics of Economy	Economic Analysis
III	OP32	Electrical Equipment	Electrical Apparatus
III	OP33	Electrotechnologies	Special Electrical Technologies
III	OP34	Maintenance and Repair of Electromechanical Equipment	Technologies for use and Repair of Electrical Equipment
IV	OP41 - I,II	Electrical Installations	Protection of of power installations
IV	OP42	Electrical Power Management	Marketing
IV	OP43 - I,II	Electrical Power Systems	Optimization of Energy Systems

Legend: C – class; S – seminar; L – laboratory; P – project; Ex. (E1...8) – exam in semester 1...8; Cv. (C1...8) – colloquy in semester 1...8

RECTOR,
Prof.univ.dr.ing. POP EMIL

DEAN,
Prof.univ.dr.ing. POANTA ARON