Универзитет у Источном Сарајеву
Факултет за производњу и менаџмент Требиње

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STUDY PROGRAMME

INDUSTRIAL ENERGY ENGINEERING

I CYCLE STUDIES

ACADEMIC YEAR 2013/14 .....

Trebinje, September 2013

CURRICULUM

The first year

Semester	Course status	No.	Courses	Classes L+AE+LE	ECTS
I	C	1.	Sociology	2+0	**2**
	C	2.	English 1	2+2	**5**
	C	3.	Mathematics I	3+2	**6**
	C	4.	Materials Science	3+1+1	**6**
	C	5.	Fundamentals of Computer Technologies	2+1+1	**5**
	C	6.	Descriptive Geometry and Engineering Drawing	3+2	**6**
			Total	**15+10**	**30**
II	C	1.	Engineering Physics	2+2	**5**
	C	2.	English 2	2+2	**5**
	C	3.	Mathematics II	3+2	**6**
	C	4.	Mechanics I (Statics)	2+2	**5**
	C	5.	Electrical Engineering	2+2	**4**
	C	6.	Programming and Computer Programming Tools	2+2	**5**
			Total	**13+12**	**30**

The Second Year

Semester	Course Status	No.	Courses	Classes L+AE	ECTS
III	C	1.	Mathematics III	2+2	**5**
	C	2.	Fluid ∫ echanics	3+2	**6**
	C	3.	Machine ţ lements	3+2	**6**
	C	4.	Mechanics II (Kinematics)	3+2	**6**
	C	5.	Energy and Society	2+2	**5**
	C	6.	English 3	1+1	**2**
			Total	**14 +11**	**30**
IV	C	1.	Thermodynamics	3+2	**6**
	C	2.	Mechanics III (Dynamics)	3+2	**6**
	C	3.	Energy Management in Industry	2+2	**5**
	C	4.	Strength of Materials	3+2	**6**
	C	5.	Ecology and Alternative Energy Sources	2+2	**5**
	C	6.	English 4	1+1	**2**
			Total	**14+11**	**30**

Note:

C ï Compulsory course
E ï Elective course
L -- Lectures
AE ï Auditory exercise
LE ï Laboratory exercises

The Third Year

Semester	Course Status	No.	Courses	Classes L+AE	ECTS
V	C	1.	Heat and Mass Transfer	3+2	**6**
	C	2.	Power Plants	2+2	**5**
	C	3.	Refrigeration Systems and Heat Pumps	2+2	**6**
	C	4.	Hydraulics and Pneumatics	3+2	**6**
	E	5.	Elective course from Module 5.1.5	3+2	**6**
	C	6.	English 5	1+1	**2**
			Total	**14+11**	**30**
VI	C	1.	Energy Engineering Measurements	3+2	**6**
	C	2.	Information Systems	3+2	**6**
	E	3.	Elective course from Module 6.1.5	3+2	**6**
	E	4.	Elective course from Module 6.2.4	2+2	**5**
	E	5.	Elective course from Module 6.3.4	2+2	**5**
	C	6.	English 6	1+1	**2**
			Total	**14+11**	**30**

Elective Modules

Modul	Thermal Engineering	Hydraulic Engineering
5.1.5	Fossil Fuels Combustion	Pipelines and Pipe Fittings
6.1.5	Steam Generators	Turbomachines
6.2.4	Steam Turbines	Piston Pumps
6.3.4	Mining Plants and Equipment	Pumps and Fans

The Fourth Year

Semester	Course Status	No.	Courses	Classes L+E	ECTS
VII	C	1	Process Automation	2+2	**5**
	E	2.	Elective course from Module 7.1.5	3+2	**6**
	E	3.	Elective course from Module 7.2.4	2+2	**5**
	C	4.	Market Research and Consumers Behavior Research	2+2	**5**
	C	5.	Power Plant Maintenance	2+2	**5**
	E	6.	Elective course from Module 7.3.4	2+2	**4**
			Total	**13+12**	**30**
VIII	C	1.	Computer ï Integrated Systems in Energy Engineering	2+2	**4**
	C	2.	Systems Engineering Principles	2+2	**4**
	C	3.	Company Organisation in Energy Industry	2+2	**4**
	C	4.	Energy Efficiency in Industrial Energy Systems	2+2	**4**
	E	5.	Elective course from Module 8.1.4	2+2	**4**
	C	6.	Professional Practice	2 weeks	**2**
	C		Diploma paper		**8**
			Total	**10+10**	**30**

Elective Modules List:

Modul	Thermal Engineering	Hydraulic Engineering
7.1.5	Cooling Towers	Wind Energy Transformers
7.2.4	Water Treatment and Cooling Systems	Hydraulic Power Transmitters
8.1.4	Thermal Power Plant Design	Hydro Power Plant Design

Elective courses 7.3.4: Mechatronics; Fluids Transmission in Pipes; Gas Turbines; Planning in Energy Engineering; Heating and Cooling; Drying Processes

II CYCLE STUDIES ï MASTER'S STUDIES

CURRICULUM

Semester	Course Status	No.	Courses	Classes L+AE	ECTS
IX	C	1.	Research Methodology and Scientific Writing	3+2	**6**
	C	2.	Operation Research in Energy Engineering	2+2	**6**
	C	3.	New Technologies in Energy Engineering	2+2	**5**
	C	4.	Project Management in Energy Engineering	2+2	**5**
	E	5.	Elective course from Module 9.1.4	2+2	**4**
	E	6.	Elective course from Module 9.2.4	2+2	**4**
			Total	**13+12**	**30**
X	C	1.	Laboratory Practice	4 weeks	**5**
	C	2.	Master Thesis		**25**
			Total		**30**

Elective Modules List:

9.1.4: Strategic Management and Marketing in Energy Engineering;
Development and Investments in Energy Engineering

9.2.4: Expert Systems in Energy Engineering;
Industrial Robotics in Energy Engineering

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Prof. Rade Ivankovic, PhD