

Add. 3		Course program for the first, second and third level (cycle) of studies				
1.	Course title	Energy Production Fundamentals				
2.	Code	244				
3.	Study group(s)	PE, TML, TE, HEWM, MJSE, IEM, MV, EE, MechH, ACS, DC				
4.	The organizer of the study program (unit, institute, department)	Faculty of Mechanical Engineering - Skopje, Ss. Cyril and Methodius University in Skopje				
5.	Level (first, second, third)	First				
6.	Academic year / semester	Summer	7.	ECTS credits	6	
8.	Instructor	Assoc. prof. Zoran Markov				
9.	Prerequisites	Fluid Mechanics – passed				
10.	Course objectives (competences): Learning about all kinds of energy and its production, technical procedures and its wider social-economic importance. Learning methodologies for energy investigations, principles of its usage, planning of energy sources and their influence on the environment.					
11.	Course content: General definition of energy. Basic properties of the heat and electric energy. Basic energy sources. Fuels and their enrichment. Systems and devices for conversion and transformation of the energy. Terminology and turbine types. Hydrology analysis. Energy production and balance. Reproduction cycle in the material production system. Energy and economy growth. Rational energy production.					
12.	Study methods: interactive lectures, auditory practice and/or laboratory practice, self running and/or team work projects, self learning					
13.	Total hours	6 ECTS x 30 hours = 180 hours				
14.	Hours allocation per activity:	30 + 30 + 30 + 0 + 90 = 180 hours				
15.	Lectures/Lab	15.1.	Lectures	30 hours		
		15.2.	Lab (student work)	30 hours		
16.	Project Work/Assignments	16.1.	Project assignments	30 hours		
		16.2.	Individual assignments	0 hours		
		16.3.	Self-study	90 hours		
17.	Points/Marks:					
	17.1.	Tests			80 points	
	17.2.	Projects			10 points	
	17.3.	Attendance			10 points	
18.	Grading scale	Under 50		5 (five) (F)		
		51 - 60 points		6 (six) (E)		
		61 - 70 points		7 (seven) (D)		
		71 - 80 points		8 (eight) (C)		
		81 - 90 points		9 (nine) (B)		
		91 - 100 points		10 (ten) (A)		
19.	Prerequisites for taking the final exam	Fulfilled activity 17.2				
20.	Language of Instruction	Macedonian				
21.	Course evaluation	Student questionnaire				
22.	Textbooks					
	22.1.	Instruction materials				
		No.	Author	Title	Publisher	Year
1.		Ристик М.	Општа енергетика (превод на македонски)	МФ-Београд		
	2.	Pozar H.	Osnove energetike 2	Skolska knjiga –Zagreb	1987	

		3.				
	22.2.	Supplemental Instruction Materials				
		No.	Author	Title	Publisher	Year
		1.	Beggs C.	Energy: Management, Supply and Conservation	Elsevier	2009
		2.	Cleveland C.J.	Encyclopedia of Energy	Elsevier Academic Press	2005
		3.	Enerpedia	wikiOsnoveEnergetike	web	