

Add. 3		Course program for the second level (second cycle - postgraduate) of studies			
1.	Course title	Modern thermal power plants			
2.	Code	1M5SEE01			
3.	Study group(s)	SEE			
4.	The organizer of the study program (unit, institute, department)	"Ss. Cyril and Methodius" University in Skopje, Faculty of Mechanical Engineering – Skopje			
5.	Level (first, second, third)	Second			
6.	Academic year / semester	V / Winter	7.	ECTS credits	6
8.	Professor	Prof. dr. Slave Armenski			
9.	Prerequisites	None			
10.	Course objectives (competences): Profound knowledge of modern facilities that analyze, design, analysis and selection of advanced equipment, technical control, supervision and inspection during construction, exploitation and maintenance, environmental protection				
11.	Course content: Modernization of plants with increased energy efficiency; combined cycle cogeneration plants; plants with triple loop-three generation; plants MHDG; hydrogen as fuel; thermal balances; efficiency coefficient; equipment; economic and environmental aspects				
12.	Study methods:				
13.	Total hours	6 ECTS x 30 = 180 hours			
14.	Hours allocation per activity: 30+45+40+30+35= 180 hours				
15.	Lectures/Lab	15.1.	Lectures (15 week x 2)	30 hours	
		15.2.	Lab (student work)	45 hours	
16.	Project Work/Assignments	16.1.	Project assignments	40 hours	
		16.2.	Individual assignments	30 hours	
		16.3.	Self-study	35 hours	
17.	Points/Marks:				
	17.1.	Tests	50 points		
	17.2.	Projects	50 points		
	17.3.	Attendance	-		
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	Accomplished 16.1 and 16.2			
20.	Language	English			
21.	Course evaluation	Student questionnaire			
22.	Textbooks				
	22.1.	Instruction materials			

		No.	Author	Title	Publisher	Year
		1.	L. Drbal et al.	Power Plant Engineering	Black&Veatch, Chapman&Haal, New York	1996
		2.	Klas Jonhagen:	„Modern Thermal Power Plant- Aspects on Modelling and Evaluation"	Lund University	January, 2011, Sweden
	22.2.	Supplemental Instruction Materials				
		No.	Author	Title	Publisher	Year
		1.	B.W.Wilkinson, R.W.Barnes	Cogeneration of Electricity and Useful Heat	CRC Press, Inc, Boca Raton, Florida	