Add. 3	**Course program for the second level (second cycle - postgraduate) of studies**					
1.	Course title		Design of fluid conveying and hydro power system			
2.	Code		1M6SEE05			
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(s)		Prof. dr. Valentino Stojkovski Assoc. prof. dr. Zoran Markov			
9.	Prerequisites		None			
10.	Course objectives (competences): Introduction to systems for hydraulic and pneumatic convey of fluids. Developing mathematical models for hydraulic calculation of the systems and their components. Introduction to systems for hydro power. Developing mathematical models for hydraulic calculation of the systems and their components.					
11.	Course content: Physical properties of fluids, water, oil, gas and mixtures of fluid - solid particles. Hydraulic and Pneumatic Conveying: calculation, devices and equipment, Hydro power systems: pump stations and hydro power plants: calculation, devices and equipment Techno-economical calculation and economic parameterisation					
12.	Study methods: lectures, lab, project assignments, individual assignments, self-study.					
13.	Total hours		6 ECTS x 30 = 180 hours			
14.	Hours allocation per activity:		30 + 15 + 40 + 30 + 65 = 180 hours			
15.	Lectures/Lab	15.1.	Lectures (15 weeks x 2)			30 hours
		15.2.	Lab (student work)			15 hours
16.	Project Work/Assignments	16.1.	Project assignments			40 hours
		16.2.	Individual assignments			30 hours
		16.3.	Self-study			65 hours
17.	Points/Marks:					
	17.1.	Exams				40
	17.2.	Projects				50
	17.3.	Attendance				10
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		Activity 16.1			

20.	Language			English		
21.	Course evaluation			Student questionnaire		
22.	Textbooks					
	22.1	Instruction materials				
		No.	Author	Title	Publisher	Year
		1.	Speight J.G.	Natural Gas – A Basic Handbook	Gulf Publishing Company, Houston	2007
		2.	Oneil A. Williams	Pneumatic and Hydraulic Conveying of Solids	CRC Press	1983
		3.	G.I.Krivcenko	Hydraulic machines-turbiner and pumps	Lewis publisher	1994
	22.2	Supplemental Instruction Materials				
		No.	Author	Title	Publisher	Year
		1.	Wang X., Economides M.	Advanced Natural Gas Engineering	Gulf Publishing Company, Houston, Texas	2009
		2.	David Mills,	Pneumatic Conveying Design Guide	ELSEVIER	2004
		3.	Frank Yeaple	Fluid Power Design Handbook	CRC Press	1995