

Add. 3		Course program for the first, second and third level (cycle) of studies			
1.	Course title	Internal combustion engines			
2.	Code	222			
3.	Study group(s)	TE			
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	Winter	7.	Number of ECTS credits	6
8.	Instructor	Ass. Prof. Dame Dimitrovski, D. Sci.			
9.	Prerequisites	Thermodynamic - signature			
10.	Course objectives (competences): Introduction to theoretical and practical part of engines, analysis of engines, other systems, calculation of basic engines parameters. Fuels, liquid fuels, alternative fuels.				
11.	Course content: Introduction, Historical development, types. Construction and basic parts. Theoretical and real cycles, analysis. Calculation and design of Otto, Diesel and Sabathe. Heat transfer, energy. IC engines systems. Pollution from engines. Fuels and lubricants: Definitions, solid, liquid and gaseous fuels. Crude oil, derivates, characteristics of fuels, biofuels, lubricants				
12.	Study methods: Teaching lectures, auditory/laboratory practice, self/team work, home studding				
13.	Total hours	6 ECTS x 30 hours = 180 hours			
14.	Hours allocation per activity:	30 + 30 +30+30 +60 = 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	30 hours	
		16.3.	Self-study	60 hours	
17.	Points/Marks:				
17.1.	Tests				90 points
17.2.	Projects				8 points
17.3.	Attendance				2 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	Research and presentation for the Project 17.2 Homework			
20.	Language of Instruction	Macedonian			
21.	Course evaluation	Continuous evaluation and review.			

22.	Textbooks				
	22.1.	Instruction materials			
		No.	Author	Title	Publisher
1.	Mile Dimitrovski	Theory and analysis of IC engines	UKIM	2003	

		2.	Mile Dimitrovski	Contemporary IC engines and systems	UKIM	2003
		3.				
		Supplemental Instruction Materials				
	22.2.	No.	Author	Title	Publisher	Year
		1.	Eran Sher	Handbook of airpollution from internal combustion engines Pollutant formation and control	Academic press	2003
		2.	Dame Dimitrovski	Selection of resolved tasks	Internal issue MFS	2011
		3.	Mile Dimitrovski Todor Davcev Elenior Nikolov	Practicum IC engines	UKIM	2003