

Add. 3		Course program for the first, second and third level (cycle) of studies			
1.	Course title	Fluid Dynamics and CFD			
2.	Code	141			
3.	Study group(s)	HEWM			
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.	ECTS credits	6
8.	Instructor	prof. d-r Valentino Stojkovski			
9.	Prerequisites	Fluid Mechanics – signature Mathematics 1 - passed			
10.	Course objectives (competences): Profound knowledge of the fluid dynamics, the basics of CFD (Computational Fluid Dynamics), presentation, tutorial introduction to the popular numerical solving techniques and introduction with known CFD software's.				
11.	Course content: Incompressible fluid dynamics (simple and complex pipeline system). Unsteady flows. Fluid flow around solid body. Fundamentals of compressible fluid dynamics. Basics of the CFD technology, application and reasons for using. One-dimensional numerical models. 2D and 3D fluid flow space defining and discretization. Initial and boundary conditions. Post-processing calculations.				
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 + 60 + 20 + 40 = 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	60 hours	
		16.2.	Individual assignments	20 hours	
		16.3.	Self-study	40 hours	
17.	Points/Marks:				
	17.1.	Tests	40 points		
	17.2.	Projects	50 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				
20.	Language of Instruction				
21.	Course evaluation				
	Student questionnaire				
22.	Textbooks				
	Instruction materials				
22.1.	No.	Author	Title	Publisher	Year
	1.	Anderson D., Tannehill I., Pletcher R.	Computational fluid mechanics and heat transfer		

		2.	Blazek J.	Computational fluid dynamics- principles and applications		
		3.	Farrashkhalvat K, Miles J.P.	Basic structured grid generation		
	22.2.	Supplemental Instruction Materials				
		No.	Author	Title	Publisher	Year
		1.	М. Мирчевски	Механика на флуиди		
		2.	Т. Бундалевски	Механика на флуиди		