

Add. 3		Course program for the first, second and third level (cycle) of studies				
1.	Course title	Data Bases				
2.	Code	110				
3.	Study group(s)	Production Informatics				
4.	The organizer of the study program (unit, institute, department)	Faculty of Mechanical Engineering - Skopje				
5.	Level (first, second, third)	First				
6.	Academic year / semester	Second / winter	7.	ECTS credits	6	
8.	Instructor	Dushan Chakmakov				
9.	Prerequisites	Programming Languages				
10.	Course objectives (competences): Introduction to methods of grouping and presentation of data and design and development of relational data bases.					
11.	Course content: Files and data bases. Modeling using entities and attributes. Relational data base model and normalization. Using SQL and implementation of data bases in MS-ACCESS.					
12.	Study methods: lectures, auditory and laboratory practice, self-running and team work projects, self-learning					
13.	Total hours	6 ECTS x 30 hours = 180 hours				
14.	Hours allocation per activity:	30 + 30 + 30 + 30 + 60				
15.	Lectures/Lab	15.1.	Lectures	30		
		15.2.	Lab (student work)	30		
16.	Project Work/Assignments	16.1.	Project assignments	30		
		16.2.	Individual assignments	30		
		16.3.	Self-learning	60		
17.	Points/Marks:					
	17.1.	Tests(1 x 50 points)			50 points	
	17.2.	Projects			40 points	
	17.3.	Attendance			10 points	
18.	Grading scale	Under 50		5 (five) (F)		
		50-59 points		6 (six) (E)		
		60- 69points		7 (seven) (D)		
		70 -79points		8 (eight) (C)		
		80-89points		9 (nine) (B)		
		90- 100 points		10 (ten) (A)		
19.	Prerequisites for taking the final exam	/				
20.	Language of Instruction	Macedonian				
21.	Course evaluation	Student questionnaire				

22.	Textbooks					
	22.1.	Instruction materials				
		No.	Author	Title	Publisher	Year
		1.	Oppel A.	Database Demystified	McGrow-Hill	2004
		2.				
	3.					
	22.2.	Supplemental Instruction Materials				
		No.	Author	Title	Publisher	Year
		1.	Davchev D.	Data structures, file organizations and data bases	Ss. Cyril and Methodius University	1999