

DEPARTMENT OF MECHATRONICS ENGINEERING
COURSE SYLLABUS

Course Details						
Code				Academic Year		Semester
MEC215				2		Fall
Title				T	A	L ECTS
Database Systems				2	0	2 6
Language		German				
Level		Undergraduate	X	Graduate		Postgraduate
Department / Program		Computer Science				
Forms of Teaching and Learning		Face-to-Face, Individual Study, Peer Assessment				
Course Type		Compulsory	X	Elective		
Objectives		In today's data-centric computing world, understanding data and being able to process them is very important. Students will learn the branch proficiency to use the most important database technologies. On the other hand, they will learn basic methods that will allow them to improve themselves and adapt to new technologies that are constantly changing.				
Content		-Theoretical bases and modeling of relational databases. -SQL is the most common database language. -Special usage areas of databases. Current developments and the future of databases.				
Prerequisites		None				
Coordinator		Dr. Ahmet Yıldız				
Lecturer(s)		Dr. Ahmet Yıldız				
Assistant(s)		-				
Work Placement		None				
Recommended or Required Reading						
Books / Lecture Notes		- Meier A., Kaufmann M., SQL- & NoSQL-Datenbanken, SpringerVieweg				
Other Sources		- Meier A., Relationale und postrelationale Datenbanken, SpringerVieweg - Sosna D., Lese- und Übungsbuch Datenbanken: E/R- und Relationenmodell, Universität Leipzig, - Sosna D., Lese- und Übungsbuch Datenbanken: Relationalalgebra, Universität Leipzig				
Additional Course Material						
Documents		-				
Assignments		-				

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Exams	-		
Course Composition			
Mathematics und Basic Sciences			%
Engineering	30		%
Engineering Design	30		%
Social Sciences	10		%
Educational Sciences			%
Natural Sciences			%
Health Sciences			%
Expert Knowledge	30		%
Assessment			
Activity	Count		Percentage (%)
Midterm Exam			
Quiz			
Assignments			
Attendance			
Recitations			
Projects	4		60
Final Exam	1		40
Total			100
ECTS Points and Work Load			
Activity	Count	Duration	Work Load (Hours)
Lectures	14	2	28
Self-Study	1	56	56
Assignments			
Presentation / Seminar Preparation			
Midterm Exam			
Recitations	14	2	28
Laboratory			
Projects	1	46	46
Final Exam	1	14	14
Total Work Load			168
ECTS Points (Total Work Load / 28)			6
Learning Outcomes			

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1	Data Models and Relational Models
2	SQL and Database Programming
3	Data Security and Data Reliability
4	General Information about Nonrelated Databases
5	Big Data and Application Areas of NoSQL

Weekly Content

1	Data, Data Management, Data Modeling
2	Entity-Relationship Model
3	Data Architecture, Database Design
4	Relational Algebra, Relational Database Languages
5	Introduction to SQL
6	SQL,SQL and more SQL
7	Procedures, Embedded Functions and Interfaces to Programming Languages
8	System Architecture and Security
9	Scattered Data, Scattered Databases
10	Temporal and Spatial Data
11	OLAP / Business Intelligence
12	Non-relational Databases
13	Big Data and NoSQL Databases
14	The Future of Database Systems

Contribution of Learning Outcomes to Program Objectives (1-5)

	P1	P2	P3	P4	P5	P6	P7
1	5	5	4			3	1
2	5	5	4			3	1
3	5	5	4			3	1
4	5	5	4			3	1
5	5	5	3			3	1

Contribution Level 1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High

<http://bm.tau.edu.tr/learning-objectives-of-the-program>

Compiled by: Arş. Gör. Nihal Zuhul Kayalı

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