

## EEE 302 Database Systems

PHYS102 Engineering Physics II							
Course Name	Course Code	Semester	h/w	Appl.	Lab. h/w	Credit	ECTS
Database Systems	EEE302	1	4	0	0	4	5

<b>Prerequisites</b>	No
<b>Course Language</b>	English
<b>Course Type</b>	Compulsory
<b>Course Level</b>	Graduate
<b>Way of teaching</b>	Face to face, online
<b>Learning and teaching techniques</b>	Expression, question answer, homework

Course Objectives
The aim of the course is to introduce students to current techniques, methods and results from the active field of database systems and data management. Students who attend this course will gain the information about system implementation techniques, data storage, representing data elements, database system architecture, the system catalog, query processing and optimization, transaction processing concepts, concurrency control techniques, database recovery techniques, database security and authorization, enhanced data models for advanced applications, temporal databases, deductive databases, database technology for decision support systems, distributed databases and client server architecture, advanced database concepts, and emerging technologies and applications.

Course Educational / Learning Outcomes
<b>Students who can successfully complete this course will be able to;</b>
1. understand the introduction, concepts and definitions of database systems
2. understand the normalization techniques
3. understand the Data Mining and Data warehouse
4. understand the transaction processing
5. understand the concurrency control, distributed databases
6. understand the database security, temporal database
7.
8.

Topics Covered
Introduction, Concepts and Definitions, Normalization Techniques, Data Mining and Data warehouse, Transaction Processing, Concurrency Control, Distributed Databases, Database Security, Temporal database

Weekly Topics and Related Preparation Studies		
Week	Topics	Preparation
1	Introduction, Concepts and Definitions	
2	Normalization Techniques	
3	Normalization Techniques	
4	Data Mining and Data warehouse	
5	Data Mining and Data warehouse	
6	Transaction Processing	
7	Transaction Processing	
8	Midterm Exam	
9	Concurrency Control	
10	Concurrency Control	
11	Distributed Databases	
12	Distributed Databases	
13	Midterm Exam	
14	Database Security	
15	Temporal database	
16	Final Exam	

Textbook
R. Elmasri, <i>Fundamentals of Database Systems</i> , 5 <sup>th</sup> edition, Pearson, 2006.
Patrick Valduriez M. Tamer Ozsu, <i>Principles of Distributed Database Systems</i> , 2 <sup>nd</sup> Edition, Prentice Hall, 1999.

Assessment System		
Works	Number	Contribution
Attendance		
Laboratory		
Practice		
Field Study		
Course-Specific Internship (if applicable)		
Quizzes		
Homework	4	20%
Presentation		
Project		
Report		
Seminar		
Midterm Exams / Midterm Jury	2	40%
Final Exam / Final Jury	1	% 40
<b>Total</b>		<b>% 100</b>
<b>Contribution to the success grade of semester studies</b>		% 60
<b>Contribution of the studies at the end of semester to the success grade</b>		% 40
<b>Total</b>		<b>% 100</b>

Course Category	
Basic Vocational Courses	X
Expertise / Field Courses	
Support Courses	

Communication and Management Skills Courses	
Transferable Skill Courses	

The Relationship between Course Learning Outcomes and Program Competencies						
No	Program Competencies / Outcomes	Contribution Level				
		1	2	3	4	5
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						

ECTS/Workload Table			
Activities	Number	Time (h)	Total Workload
Course hours (Including exam week: 16 x total weekly course hours)	16	4	64
Laboratory			
Application			
Course specific internship			
Field Study			
Out-of-class study time			
Presentation/Seminar Preparation			
Projects			
Reports			
Homeworks	4	4	16
Quizzes			
Preparation time for Midterm Exams / Midterm Jury	2	20	40
Preparation time for Final Exam / Final Jury	1	20	20
<b>Total Workload</b>			<b>140</b>