

Course Profile - Department of Information Technologies

Course Number : IT 302	Course Title : Database Systems
Required / Elective : Required	Pre / Co-requisites : IT 202
Catalog Description: Introduction to database systems. Entity-relationship modeling. Relational model. Data description and query languages. Normal forms and database design. Physical design and access strategies. Security, integrity and reliability. Database design and implementation project.	Textbook / Required Material : Fundamentals of Database Systems Elmasri & Navathe
Course Structure / Schedule : (3+1+2) 4 / 7 ECTS	
Extended Description : This course aims to enable students design and implement database systems, with providing satisfactory knowledge on Introduction to database systems, Entity-relationship modeling, Relational model, Data description and query languages, Normal forms and database design, Physical design and access strategies, Security, integrity and reliability, and Database design and implementation project.	
Design content : The students are expected to design a database as the term project in this course.	Computer usage: Students will learn and experience DBMS administration during the lab hours.
Course Outcomes: 1. Understand the basic concepts of database systems [6]. 2. Be familiar with one Database Management System to create and administer relational database systems by using the graphical tools provided by the system as well as executing appropriate SQL statements [3]. 3. Given a list of data processing requirements to answer user needs or implement an application to query database, students should be able to create appropriate SQL statements [3]. 4. Be familiar with the relational database theory, design a database, and create Entity – Relationship Schema based on the design [3]. 5. Be able to create Database Design Document on a designed database [5]. 6. Master sound design principles for logical design of databases, including the E-R method and normalization approach [3].	

Program Outcomes for Management Information Systems Program:

1. A foundation in mathematics and basic sciences and ability to apply acquired knowledge as they relate to the study and practice of information systems management.
2. An ability to align information technology, organizational and strategic matters.
3. An ability to propose, analyze, design, develop, test and maintain an information technology system including software solutions, security model, computer and network infrastructure, etc. to solve information systems problems.
4. An ability to analyze local and global impact of computing on individuals, organizations and society; and the ability to apply information systems techniques, skills, and tools for regular computing practices as well as to improve effectiveness of current methodologies.
5. An ability to effectively communicate in oral and written media with all kinds of related audiences; and prepare documentation for this purpose as required.
6. An understanding of professional, ethical, legal, and social issues and responsibilities of information systems management profession.
7. A taste and breadth of knowledge across several social topics outside the immediate requirements of the information systems management profession, and the ability to work within heterogeneous teams to accomplish a common goal including people from the information systems area as well as other disciplines.
8. An ability to engage in life-long learning and professional development for personal improvement to follow contemporary information systems issues.

Teaching methods

Students will learn the theory by pre-readings and attending affectively to the classes. There are two main outcomes of this course, namely database project design and implementation together with database administration. Students will be assigned a database project to satisfy the first one, and will practice in the laboratory to satisfy the second.

Assessment methods

1st Midterm exam	20%
2nd Midterm exams	20%
Project	25%
Lab Study	15%
Final exam	20%

Student workload:

Preparatory reading	16 hrs
Lectures, workshop, discussions	84 hrs
Homework	0 hrs
Projects	70 hrs
Final Exam	5 hrs
TOTAL	175 hrs

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