■ CE63 - Data Bases

GENERAL

SCHOOL	EXACT SCIENCES
DEPARTMENT	MATHEMATICS
LEVEL OF STUDIES	UNDERGRADUATE
COURSE CODE	CE63

COURSE CODE	CE63	**SEMESTER**	F
COURSE TITLE	DATA BASES		

INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**ECTS**
Lectures	4	5

COURSE TYPE	Skills Development
PREREQUISITE COURSES	-
LANGUAGE OF TEACHING AND EXAMINATIONS	Greek/English
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	http://eclass.uowm.gr/

LEARNING OUTCOMES

Learning Outcomes
The purpose of the course is to introduce students to relational databases, emphasizing how to design and implement databases using the SQL relational language. Upon successful completion of the course, the students should: - get to know the basic concepts and terms of DBMS, the relational data model and how to design them by applying the principles of the entity-relationship model,   - understand the capabilities and advantages of relational databases,   - design efficient and functional N.D. systems,   - implement simple database applications with SQL.

General Competencies
• Search for, analysis and synthesis of data and information, with the use of the necessary technology. • Decision making. • Production of free, creative and inductive thinking.

CONTENT OF THE COURSE

Introduction to the basic concepts of data storage and management using DBMS (Data Base Management Systems). Comparison of Relational Data Storage Model with traditional file organization. Refer to database models. Introduction to relational database systems. Design relational databases applying the principles of the entity-relationship model. The SQL relational language. Relational algebra.

TEACHING AND LEARNING METHODS - EVALUATION

TEACHING METHOD	In the classroom.
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	Power point presentations of theory. Online self-assessment exercises. Learning process support through the moodle online platform.
TEACHING ORGANIZATION	<table><tr><th>Activity</th><th>Semester Workload</th></tr><tr><td>Lectures</td><td>26 hours</td></tr><tr><td>Exercises</td><td>13 hours</td></tr><tr><td>Laboratory Exercises</td><td>26 hours</td></tr><tr><td>Semester Project</td><td>7 hours</td></tr><tr><td>Individual Study</td><td>53 hours</td></tr><tr><td>Course Total (25 hours per ECTS)</td><td>125 hours</td></tr></table>
STUDENT EVALUATION	Written final exam (50%) and examination of the laboratory exercises (50%). The written final exam includes:

	-multiple choice questions, -solving problems of applying the acquired knowledge, -comparative evaluation of theory elements. The examination of the laboratory exercises includes: -the evaluation of the student's written laboratory reports, -the assessment of laboratory skills acquired through an examination in which laboratory equipment is used.

RECOMMENDED BIBLIOGRAPHY

1. Database Systems, Abraham Silberschatz, Henry F. Korth, S. Sudarshan, X. GKIOURDA & Co EE. (Greek)
2. Fundamentals of Database Systems, Elmasri Ramez, Navathe Shamkant B.
3. INTRODUCTION TO DATABASE SYSTEMS, VOLUME A DATE C. J., Kleidaritmos Publications.
4. Database System Concepts, Abraham Silberschatz, Henry F. Korth, S. Sudarshan, McGraw-Hill Science/Engineering/Math Publishing.