

Course Title	Databases 2				
Course Code	MS682				
Course Type	Major Elective				
Level	BSc/1st Cycle				
Year / Semester	4 th /8 th				
Teacher's Name	Stavros Katsaronas				
ECTS	7.5	Lectures / week	3 hours	Laboratories / week	2 hours
Course Purpose and Objectives	The purpose of the course is to present the necessary concepts for students to be able to design and implement complex database systems using modern tools and techniques in a constantly changing competitive environment.				
Learning Outcomes	Upon successful completion of the course, students will be able to: • Use key database technology tools and Database Management Products • Implement engineering and implementation techniques for complex databases and use well-known SBAs to implement complex databases • Understand the differences in known DBMS in transactions and in database management, • Understand how to use views in database system applications • Analyze business rules to design complex databases • Choose the SBA that is appropriate for the "real" problem they have to deal with				
Prerequisites	CSC310	Required	-		
Course Content	Functional dependencies and normalization. Data Semantics Model Enhanced Entity Model - Correlations, Object-Oriented Data Model, Oracle technology (PL / SQL, triggers, stored procedures, etc.) Open Source Database Management Systems Comparative presentation of Database Management Products in transaction processing Comparative presentation of Database Management Products in Database Administration Back up database and database recovery Concurrency synchronization in multi-user environments, Optimization of query optimization.				

	Distributed databases. Up-to-date database issues (media bases, web databases, database security, knowledge and database management and knowledge, XML, OLAP, Data Warehouse, etc.). Case study.
Teaching Methodology	Lectures 42 hours Labs 30 hours
Bibliography	ElmasriR., NavatheS.B., Θεμελιώδεις Αρχές Συστημάτων Βάσεων Δεδομένων, (μετάφραση Μ. Χατζόπουλου), Εκδόσεις Δίαυλος, 2016. SilberschatzA., KorthH.F., SudarshanS., Συστήματα βάσεων δεδομένων – Η πλήρης θεωρία των βάσεων δεδομένων, (μετάφραση Μ. Γκλαβά), Εκδόσεις Γκιούρδα
Assessment	Final Exam 60% Mid-Term/Lab Exam 20% Assignments 20%
Language	English