AMERICAN UNIVERSITY
OF CYPRUS

Course Code CSC303	**Course Name** Databases 1	**ECTS Credit** 5
Pre-Requisite	**Course Type** Compulsory	**Language of Instruction** English
Year of Study 3rd / 5th	**Level of Course** BSc/1st Cycle	**Mode of Delivery** On Campus

Course Objectives:

The aim of the course is to provide students with the necessary knowledge to be able to design databases and database systems and to implement databases using SQL language.

Learning Outcomes

Upon successful completion of the course, students will be able to:

- Understand the basic tools of database technology and well-known Database Management (DBMS)
- Understand basic issues of transactions, database administration and views
- Analyze business rules to design databases
- Apply basic design and implementation techniques to simple databases
- Apply basic SQL language techniques for implementing database systems

Teaching Methodology:

Lectures 42 hours

Labs 30 hours

Course Content

Databases, Database Systems, Database Management Systems, Database Systems Architecture.

Data Structures for Databases.

Basic data concepts (data independence, integrity rules, restrictions, etc.).

Hierarchical, Network and Relational Data Model.

Relational algebra, Relational calculus and QBE.

Database design (Normalization, Entity – Relationship Model).

Structured Query Language (SQL).

Sight updates.

Role and tasks of the Database Administrator.

Transactions.

Assessment Methods:

Final Exam

Mid-Term/Lab Exam

Assignments

Required Textbooks/Reading:

Title	Author(s)	Publisher	Year
Database Systems – A Practical Approach to Design, Implementation and Management	Connonly, T.M. Begg, C.E. and Strachan	Addison Wesley	
Oracle Database 11g PL/SQL Programming: Develop Robust, Database-Driven PL/SQL Applications	Michael McLaughlin	McGraw-Hill Osborne Oracle Press Series	2008