

AMITY GLOBAL INSTITUTE

MODULE SYLLABUS

Course	Advanced Diploma in Computing
Module Title	Advanced Database Systems
Syllabus / Content / Learning Outcomes	<p>This module introduces fundamental concepts and skills of Entity Relational Models (ERMs) and Structured Query Language (SQL). The module focuses on the key areas of extended-relational databases; user defined types, their practical creation and application, valuable data extraction to provide intelligence and introduces database programming (PL/SQL). The module employs industry standard software to achieve the maximum economic saleability.</p> <p>Learning Objectives</p> <ol style="list-style-type: none"> 1. The course objective is to enable students to implement database structures, to store, retrieve and manipulate complex data. <p>Learning Outcomes</p> <p>On successful completion of the module, students will be able to:</p> <p>Knowledge and Understanding</p> <ol style="list-style-type: none"> 1. Demonstrate an understanding of data definition and data manipulation in SQL databases 2. Exhibit a knowledge of procedural SQL (PL/SQL) <p>Subject Specific Skills</p> <ol style="list-style-type: none"> 1. Develop a series of script files to implement a complex multi-table object relational database, using a commercial database management system (DBMS) 2. Design and develop a series of extraction methods to provide useful intelligence <p>Key Skills</p> <ol style="list-style-type: none"> 1. Recognise major weaknesses and accept the need for further work in those areas 2. Assess the nature and function of any designed meta data and/or software component
No. of Teaching Hours	<p>Teacher Managed Learning Lectures, Tutorials, Seminars etc : 48 hours</p> <p>Student Managed Learning Independent Preparation, pre-reading and analysis etc : 22 hours</p> <p>TOTAL = 70 hours</p>
Teaching Methods	Lectures, tutorials, case-studies analysis, research journals and group discussion
Assessment Methods and Weightages	<p>Written Assessment 1 (1500 Words) – 50%</p> <p>Written Assessment 2 (1500 Words) – 50%</p>
Skills for Maximising Learning Outcomes	Reading and Research
Dates of Examination and Submission of Assignment	To be advised and confirmed by respective module lecturer on detailed/specific assignment deadlines
Recommended Text & Reference	<p>This module is intended for students interested in the underlying Technology, which makes database application development possible and efficient.</p> <p>James Hamilton, Joseph M H , Michel Stonebraker - Architecture of a Database System (Foundations and Trends(r) in Databases)</p>

Note: All Information provided to Amity will be kept strictly confidential except for those required under statutory requirements and by government authorities and relevant university partners and accreditation bodies as part of the regulatory or course requirements.

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Lesson No.	Learning Outcome
DBMS environment such as Oracle and MySQL using DDL, DML and DCL to:	
1	Create and populate SQL databases that maintain integrity
2	Manipulate data using joins, functions, sub queries relational and algebra for data extraction from simple and complex types
3	Implement data controls, including user and role creation and privilege assignment
4	Create and implement complex types in databases
5	Introduce PL/SQL for increased functionality, usability and data validation
6	Promote transferable skill in generic database development and to reinforce fundamental concepts.
7	Understand and interpret error messages to speed up development
8	Understand the principles of database connectivity

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