

Subject Description Form

Subject Code	COMP5111		
Subject Title	Database Systems and Management		
Credit Value	3		
Level	5		
Pre-requisite/ Exclusion	Nil		
Objectives	<p>The objectives of this subject are to enable students to:</p> <ol style="list-style-type: none"> 1. gain a good understanding of the architecture and functioning of database management systems, as well as the associated tools and techniques; 2. understand and be able to apply the principles and practices of good database design ; 3. appreciate the direction of database technology and their implication on management and planning of database systems; 4. appraise and use alternative conceptual and/or data models for documenting enterprise databases; 5. evaluate available DBMS systems against organization needs and negotiate the acquisition of DBMS. 		
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> a) design database solutions to solve common business problems; b) evaluate the effectiveness of specific database solutions in solving business problems; and c) articulate the organizational impact of database solutions. 		
Subject Synopsis/ Indicative Syllabus	<ul style="list-style-type: none"> • Overview of Database Management and Architecture • Relational DBMS: Entity-relationship (ER) modelling, Relational database design, SQL and relational algebra, View mechanisms. • DB Implementation and Operational Issues: Data dependencies and normalization, Query processing and optimization, Security and integrity constraints, Physical database design, Transactions, recovery and concurrency issues, Commercial DBMSs. • Selected Topics for Database Management: Database administration, Database applications for enterprises, Database project development. • Selected Topics for Database Technology: Object-oriented and semantic data modelling, Distributed database architecture, Web databases. 		
Teaching/Learning Methodology	Class activities including - lecture, tutorial, lab, workshop seminar where applicable.		
Assessment Methods in Alignment with Intended Learning Outcomes	Specific Assessment Methods/Tasks	% weighting	Intended subject learning outcomes to be assessed
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	Assignments, Tests & Projects	55	✓	✓	✓
	Final Examination	45	✓	✓	
	Total	100			
Student study effort expected	Class Contact:				
	Class activities (lecture, tutorial, lab)	39 hours			
	Other student study effort:				
	Assignments, Quizzes, Projects, Exams	65 hours			
	Total student study effort	104 hours			
Reading list and references	<p>(1) Michael V.Mannino. Database Design, Application Development, & Administration, 5th edition, McGraw-Hill, 2011.</p> <p>(2) David Kroenke. Database Processing: Fundamentals, Design and Implementation, 13/E, Prentice Hall, 2013.</p> <p>(3) A Silberschatz, HF Korth, S Sudarshan. Database System Concepts 6th Edition. McGraw Hill, 2010.</p>				