H06ID: Introduction to Databases

Module Code:	H06ID
Long Title	Introduction to Databases DRAFT
Title	Introduction to Databases
Module Level:	LEVEL 6
EQF Level:	5
EHEA Level:	Short Cycle
Credits:	5
Module Coordinator:	PAUL HAYES
Module Author:	PAUL HAYES
Departments:	School of Computing
Specifications of the qualifications and experience required of staff	

Learning Outcomes	
On successful completion of this module the learner will be able to:	
#	**Learning Outcome Description**
LO1	Identify and analyse current trends in database systems
LO2	Describe and apply data model concepts
LO3	Comprehend and evaluate the relational database concept
LO4	Design, implement and administer a database system with an appropriate database package
LO5	Formulate advanced SQL commands to manipulate the structure of a database and its contents

Dependencies
Module Recommendations
No recommendations listed
Co-requisite Modules
No Co-requisite modules listed

Entry requirements	

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Module Content & Assessment

Indicative Content
Introduction to Databases (15%) Introduction to Databases Traditional File-Based Systems The history of Database Management Systems Roles in the Database Environment Functions of a DBMS Components of a DBMS Advantages and Disadvantages of Database Management Systems DBMS Selection Data Administration and Database Administration The Web as a Database Application Platform Hierarchical, Network and Object-Oriented Data Models Relational versus Non-Relational
The Relational Model (15%) Introduction to the Relational Model Properties of Database Tables Integrity Constraints Views When is a DBMS Relational?
Database Planning, Design, and Administration (10%) Overview of the Information Systems Lifecycle The Database Application Lifecycle Overview of Database Design. Application Design
Data Modelling (10%) Introduction to data modelling The Concepts of the Entity-Relationship Model Structural Constraints The Enhanced Entity-Relationship Model Guidelines for a well-formed E-R diagram Converting from conceptual data model to logical data model Deriving relations from logical data model
Normalisation (10%) The Purpose of Normalisation Data Redundancy and Update Anomalies Functional Dependencies The Process of Normalisation First, Second and Third Normal Forms Boyce-Codd Normal Form (BCNF) Higher Normal Forms Denormalisation impact and strategies
SQL: Structured Query Language (25%) Introduction to SQL Evolution of SQL Writing SQL Commands Data Definition Language • Data Manipulation
Advanced SQL Features (15%) Introduction SQL Access Control: authorisations in SQL, system and user privileges, granting and revoking privileges Views Integrity Enhancement Features of SQL Advanced Data Definition

Assessment Breakdown	%
Coursework	50.00%
End of Module Assessment	50.00%

Assessments

Full Time

Coursework

Assessment Type:	Test One	**% of total:**	20
Assessment Date:	Week 6	**Outcome addressed:**	1,2,3
Non-Marked:	No		
Assessment Description: n/a			

Assessment Type:	Assignment	**% of total:**	5
Assessment Date:	Week 8	**Outcome addressed:**	4
Non-Marked:	No		
Assessment Description: n/a			

Assessment Type:	Test Two	**% of total:**	25
Assessment Date:	Week 11	**Outcome addressed:**	5
Non-Marked:	No		
Assessment Description: n/a			

End of Module Assessment

Assessment Type:	Terminal Exam	**% of total:**	50
Assessment Date:	End-of-Semester	**Outcome addressed:**	1,2,3,4,5
Non-Marked:	No		
Assessment Description: End-of-Semester Final Examination			

No Workplace Assessment

Reassessment Requirement

Repeat examination
Reassessment of this module will consist of a repeat examination. It is possible that there will also be a requirement to be reassessed in a coursework element.

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Module Workload

Module Target Workload Hours 0 Hours

Workload: Full Time

Workload Type	*Workload Description*	*Hours*	*Frequency*	*Average Weekly Learner Workload*
Lecture	No Description	2	Every Week	2.00
Lab	No Description	1	Every Week	1.00
Independent Learning	No Description	7.5	Once per semester	0.63
			Total Weekly Contact Hours	3.00

Workload: Part Time

Workload Type	*Workload Description*	*Hours*	*Frequency*	*Average Weekly Learner Workload*
Lecture	No Description	24	Every Week	24.00
Lab	No Description	12	Every Week	12.00
Independent Learning	No Description	89	Once per semester	7.42
			Total Weekly Contact Hours	36.00

Module Resources

Recommended Book Resources

Thomas Connolly, Carolyn Begg. (2014), Database Systems: A Practical Approach to Design, Implementation, and Management, 6th Edition. Pearson Education, [ISBN: 1292061189].

Carlos Coronel, Stephen Morris, Peter Rob and Keeley Crocket. (2013), Database Principles, 2nd Edition. CENGAGE Learning, [ISBN: 140806636].

Supplementary Book Resources

Abraham Silberschatz, Henry F. Korth, S. Sudarshan. (2010), Database System Concepts, 6th Edition. McGraw Hill Higher Education, p.1152, [ISBN: 0071289593].

Ramez Elmasri and Shamkant Navathe. (2013), Fundamentals of Database Systems, 6th Edition. Pearson Education, [ISBN: 1292025603].

C.J. Date. (2012), Database Design and Relational Theory, O'Reilly Media, p.278, [ISBN: 1449328016].

Larry Rockoff. (2010), The Language of SQL, Course Technology PTR, p.240, [ISBN: 143545751X].

This module does not have any article/paper resources

This module does not have any other resources

Discussion Note:	