

Module Details	
Module Title	Database Systems
Module Code	COS5020-B
Academic Year	2021/2
Credits	20
School	Department of Computer Science
FHEQ Level	FHEQ Level 5

Contact Hours	
Type	Hours
Lectures	12
Laboratories	24
Directed Study	164

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 1

Module Aims
To provide a coordinated and consistent coverage of theory, design and development of database systems and their role in building software systems.

Outline Syllabus
The database approach: advantages and costs; how it contrasts with the conventional file oriented approach. The relational model: what a data model is; the structural part of the relational model (structure of tables, attributes, tuple and keys); the relational algebra; entity and referential integrity rules; architecture of a relational database management system (RDBMS) and its relationship to the relational model; SQL: data query from single and multiple tables. Database design: entity relationship modelling; relational data design; functional dependence; normalisation; physical data design. Database housekeeping: security; concurrency; integrity; database administration. Use of a proprietary relational database management system.

Learning Outcomes	
Outcome Number	Description
01	a) Analyse the database approach and design and application considerations of using a RDBMS in the development of software systems. b) Apply the theory underlying relational database systems.
02	a) Design a relational database b) Apply SQL to query and modify data in a RDBMS.
03	Design relational database systems and implement database systems using SQL

Learning, Teaching and Assessment Strategy
The contact time consists of online lectures addressing (LO1a, 1b and 2a), and online laboratory study during which (LO2b and LO3) are implemented. The remainder is given over to directed study comprising directed reading and unsupervised laboratory exercises. Oral feedback is given during lectures and labs. Students requiring supplementary assessment will conduct similar assessment to the original

Mode of Assessment			
Type	Method	Description	Weighting
Summative	Examination - practical/laboratory	LAB assessment involving the understanding of the design of a relational database system and practical use of SQL	50%
Summative	Examination - MCQ	Examination - MCQ	50%

Reading List
To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:

This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.