

Module specification

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Module Code	COM480
Module Title	Database Systems
Level	4
Credit value	20
Faculty	FACE
HECoS Code	100754
Cost Code	GACP
Pre-requisite module	N/A

Programmes in which module to be offered

Programme title	Core/Optional/Standalone
BSc (Hons) Computer Science	Core
BSc (Hons) Computer Science with Industrial Placement	Core
BSc (Hons) Software Engineering	Core
BSc (Hons) Software Engineering with Industrial Placement	Core
BSc (Hons) Computing for Business	Core

Breakdown of module hours

Learning and teaching hours	24 hrs
Placement tutor support hours	0 hrs
Supervised learning hours e.g. practical classes, workshops	12 hrs
Project supervision hours	0 hrs
Active learning and teaching hours total	36 hrs
Placement hours	0 hrs
Guided independent study hours	164 hrs
Module duration (Total hours)	200 hrs

Module aims

The aim of this module is to equip learners with the knowledge and skills to design and implement efficient database schemas and structures using SQL, ensuring data integrity. Additionally, the module aims to develop proficiency in utilizing SQL techniques and features to perform queries, manipulate, and manage data from multiple tables, thereby enabling learners to effectively retrieve, manipulate, and manage data within a database.



Module Learning Outcomes

At the end of this module, students will be able to:

1	Design and implement efficient database schemas and structures using SQL ensuring data integrity.
2	Apply SQL techniques and features to perform queries data from multiple tables.
3	Demonstrate proficiency in using SQL to retrieve, manipulate, and manage data within a database.

Assessment

Indicative Assessment Tasks:

This section outlines the type of assessment task the student will be expected to complete as part of the module. More details will be made available in the relevant academic year module handbook.

Students would design and implement a database system for a given real-world scenario. The system should include multiple tables with appropriate relationships, primary and foreign keys, and a normalized schema. SQL queries should be developed to retrieve, manipulate, and manage data within the database. Assessment criteria will focus on database design, implementation, querying and manipulation skills, as well as documentation and presentation.

Assessment number	Learning Outcomes to be met	Type of assessment	Duration/Word Count	Weighting (%)	Alternative assessment, if applicable
1	1, 2, 3	Coursework	4000 Words or Equivalent	100%	

Derogations

N/A

Learning and Teaching Strategies

In line with the Active Learning Framework, this module will be blended digitally with both a VLE and online community. Content will be available for students to access synchronously and asynchronously and may indicatively include first and third-party tutorials and videos, supporting files, online activities any additional content that supports their learning. As this module progresses, the strategies will change to best support a diverse learning environment. Initially, the module will start with a heavier reliance on engaging tutor-led lectures, demonstrations, and workshops to ensure that the students get the relevant threshold concepts. As the module continues experiential and peer learning strategies will be encouraged as the students' progress with their coursework. Assessment will occur throughout the module to build student confidence and self-efficacy in relation to databases and technical SQL concepts.



Welsh Elements

This module is designed to support Welsh-speaking students in line with the Welsh Language Standards. While the primary delivery will be in English, students will have the opportunity to submit assessments, including coursework and projects, in Welsh if preferred. Relevant module materials, such as reading lists, key texts, and guidance, will be available bilingually upon request, ensuring accessibility for all students. Additionally, where possible, guest speakers, case studies, or examples may include references to the Welsh business context, especially in areas such as data use in local industries and Welsh public sector organisations.

The department encourages students to develop bilingual digital skills by incorporating Welsh-language datasets, tools, and resources where appropriate, offering an inclusive learning environment. We also support the development of bilingual visualisation techniques, enabling students to create digital outputs that reflect the Welsh language, should they wish to do so.

Indicative Syllabus Outline

Indicative syllabus includes topic areas that may include:

- Concepts of Data and Databases
- Principles of Normalisation
- Database Design: Data Analysis, Conceptual Design, Entity Relationships, Relational Schemas
- Physical and Logical Design
- Implementation: Tables, Views, Indexes
- Relational Algebra
- Database Security

Indicative Bibliography

Please note the essential reads and other indicative reading are subject to annual review and update.

Essential Reads:

Weiss, K.A. & Balti, H. (2023). Job Ready SQL. Wiley.

Other indicative reading:

Molinaro, A. & de Graaf, R. (2020). SQL Cookbook. O'Reilly.

Administrative Information

For office use only	
Initial approval date	08/11/2023
With effect from date	Sept 2026
Date and details of revision	26/03/2025 AM2 to add module to the BSc (Hons) Computer Science delivery schedule from Sept 202 March 26 – Addition of the BSc (Hons) Computing for Business programme title
Version number	3

