COURSE SPECIFICATION DOCUMENT

Academic Department:	Science, Innovation & Technology
Programme:	Mathematics & Data Science
***FHEQ* Level:**	5
Course Title:	Database Systems
Course Code:	DATA 5103
Total Hours	160
Timetabled Hours:	45
Guided Learning Hours:	15
Independent Learning Hours:	100
Credits:	16 UK CATS credits 8 ECTS credits 4 US credits

Course Description:

This course explores incorporating data into web development. This course covers data modelling, data representation, along with practical components of data protection and security using industry standard query platforms such as SQL and No SQL DBMS. Students will be able apply these server-side programming skills as a response to professional briefs.

Prerequisites:

COMP 4101 Introduction to Programming and 40 credits

Aims and Objectives:

By the end of this course, students will have the practical skills necessary to create a dynamic website that includes server-side databases that will also meet client and legal requirements of data protection and GDPR. Students will be able to use query platforms to program and test the databases.

Programme Outcomes:

L5: AI, AII, BI, BII, CI, CII, DI, DII,

A detailed list of the programme outcomes are found in the Programme Specification. This is located at the archive maintained by Registry and found at:
https://www.richmond.ac.uk/programme-and-course-specifications/

Learning Outcomes:

By the end of this course, successful students should be able to:

- Understand the practical skills required in data protection and GDPR pertaining to data and the web
- Use databases within required constraints
- Demonstrate understanding of industry standard data representation via tools such as SQL and no SQL DBMS
- Build dynamic web applications that include data bases that meet user and legal requirements

Indicative Content:

- Introduction to databases
- Creating Webservers e.g. Node js, Express
- Database querying
- SQL databases
- No SQL DBMS
- Understanding legal requirements and implications of data protection / GDPR
- Building Web Applications

Assessment:

This course conforms to the University Assessment Norms approved at Academic Board and located at: https://www.richmond.ac.uk/university-policies/

Teaching Methodology:

This course will be delivered face to face through a combination of lectures and interactive sessions. In addition to classroom activities, there are guided learning elements that are tutor led and arranged through Blackboard. These activities can be asynchronous online sessions, flipped classrooms, set readings with discussion boards or set guest lectures for example. Set activities are monitored by the instructor to ascertain student engagement. Students are encouraged to prepare for class and to play an active part, to raise questions, following-up ideas and interact with a wide range of provided material

Indicative Text:

Silberschatz A., Korth, H. Sudarshan, S. (2020) *Database system concepts*. 7th edn. New York: McGraw-Hill Education.

Additional Text

Meier, A. and Kaufmann, M. (2023) *SQL & Nosql Databases.* 2nd edn. Wiesbaden: Springer.

Websites

Online tutorial. Available at: https://ubuntu.com/tutorials/command-line-for-beginners#1-overview (Accessed: November 2024).

See syllabus for complete reading list.

Change Log for this CSD:

Nature of Change	Date Approved & Approval Body (School or AB)	Change Actioned by Registry Services
First Edition	Nov 2024	