

Module Code	ACCA5026
Title	Databases and Application Development
Date	09/09/2020
Level	5
Credits	20
Pre-Requisites	None

AIM(S)

- To provide students with a systematic understanding of the concepts underlying the design and development of databases and data applications for real-world problems.

LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- Critically evaluate the concepts, technologies and techniques used in the design and development of databases and data applications.
- Select and deploy appropriate concepts, technologies and techniques to design and implement database solutions and backend data applications for real-world problem scenarios.

INDICATIVE CONTENT

- Relational database concepts e.g. data independence, normalisation techniques, transaction management.
- Database query languages e.g. Structured Query Language (SQL).
- NoSQL and NewSQL database concepts.
- Data models e.g. entity-relationship, object-oriented, object-relational, and NoSQL models.
- Software programming languages, development libraries, frameworks, object-oriented design methods, design patterns, and architectural models for data applications.
- Data access, management and manipulation techniques, options for preserving data and dynamic data content, and displaying data user interfaces and views.
- Security, authorisation and authentication measures in databases and data applications.
- Testing, debugging, and evaluation techniques and tools.

Study Time Allocation

The study time for the module is divided as follows:

Activity type	Hours	Percentage
Scheduled learning	48	24%
Independent learning	152	76%
Placement learning	0	0%
TOTAL	200	100%

ASSESSMENT

Assessment Component 1

☐ Written exam ☒ Coursework ☐ Practical

Mode of assessment	Volume	Weighting
Portfolio	6 - 8 elements	100%

Assessment Summary

Activity type	Percentage
Written exam	0%
Coursework	100%
Practical	0%
TOTAL	100%

INDICATIVE READING LIST

Module Code	ACCA5026	
Module Title	Databases and Application Development	
Classification	Reading List entry	Electronic*
Essential	Connolly, T., Begg, C., 2015, <i>Database Systems: A Practical Approach to Design, Implementation and Management</i> , 6th Edition, Addison Wesley	☒
Essential	Viescas, J. L., 2018, <i>SQL Queries for Mere Mortals: A Hands-On Guide to Data Manipulation in SQL</i> , 4 th Edition, Addison-Wesley Professional	☒
Essential	Joshi, B., 2019, <i>Beginning Database Programming Using ASP.NET Core 3: With MVC, Razor Pages, Web API, jQuery, Angular, SQL Server, and NoSQL</i> , Apress	☒
Further	Freeman, A., 2020, <i>Pro ASP.NET Core 3: Develop Cloud-Ready Web Applications Using MVC 3, Blazor, and Razor Pages</i> , 8 th Edition, Apress	☒
Further	Lock, A., 2018, <i>ASP.NET Core in Action</i> , Manning Pub	☒
Further	Kleppmann, M., 2017, <i>Designing Data-Intensive Applications: The Big Ideas Behind Reliable, Scalable, and Maintainable Systems</i> , O'Reilly Media	☒
Further	Sharp, J., 2018, <i>Microsoft Visual C# Step by Step</i> (9th Edition), Microsoft Press	☒
Further	Troelsen, A., Japiske, P., 2017, <i>Pro C# 7: With .NET and .NET Core</i> , 8 th Edition, Apress	☒