

MODULE DESCRIPTOR

Module Title

Dynamic Web Development

Reference	CM2104	Version	4
Created	September 2023	SCQF Level	SCQF 8
Approved	July 2016	SCQF Points	30
Amended	April 2024	ECTS Points	15

Aims of Module

To provide students with experience in designing, developing and testing dynamic web applications running on a modern full-stack deployment platform.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Plan an interactive web application as a solution to a given problem, purpose or business need.
- 2 Compare client-side and server-side technologies and their application to the design of interactive web applications.
- 3 Use a full-stack development approach to implement an interactive web application.
- 4 Rate the effectiveness and security of a full-stack web application.
- 5 Undertake testing and evaluation of the functionality of a full-stack web application.

Indicative Module Content

Key concepts of designing and developing interactive web application using a full stack approach. The module will review the latest technological trends used in modern web design and development including emerging development techniques and practices. This will lead to coverage of the development and deployment of an interactive web application including aspects such as front end design, client-side scripting, data capture, data storage for web applications and server-side processing. Approaches to testing the effectiveness, efficiency and security of web applications will also be introduced. Standards and Best Practice Guides: ISO 20000, ISO 27001.

Module Delivery

Key concepts on design and development practices are introduced through the 1 hour lectures. The main emphasis of the course will be focused on the lab sessions. The lab sessions will create a flexible teaching session where individual lab assignments and group development will be interspersed with demonstrations of current techniques and practices as well as guest lectures from industry specialists. This combination will allow students to develop an understanding of the theoretical underpinning of modern web development, whilst allowing them to develop proficiency in the practical application of full-stack web technologies. Exposing the students to real world applications, demos, case studies and industry professionals will help nurture entrepreneurial skills and ensure the continued relevance of the learning experience.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	60	N/A
Non-Contact Hours	240	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	300	N/A
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4, 5
Description:	Design, implement and test an interactive dynamic web application.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The calculation of the overall grade for this module is based on 100% weighting of C1. An overall minimum grade D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
A	The student needs to achieve an A in C1
B	The student needs to achieve a B in C1
C	The student needs to achieve a C in C1
D	The student needs to achieve a D in C1
E	The student needs to achieve an E in C1
F	The student needs to achieve an F in C1
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	CM1101 Computing Information Systems, or equivalent.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

- 1 HAVIV, A.Q., 2014. Mean Web Development. PACKT.
- 2 SEVILLEJA, C. and LLOYD, H., 2015. MEAN Machine, A beginners guide to the JavascriptStack. LeanPub.
- 3 HAVERBEKE, M., 2014. Eloquent JavaScript; A modern Introduction to Programming. No Starch Press.
- 4 AZAT, M., 2014. Practical Node.js : building real-world scalable web apps. Apress.
- 5 OLSSON, M., 2015. JavaScript Quick Syntax reference. Apress.
- 6 KUMAR, A., 2016. Practical JQuery. Apress.
- 7 Scotch.io Modern web development tutorials. <https://scotch.io/tutorials>.