



Module Specification

Webapp Development

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Part 1: Information

Module title: Webapp Development

Module code: UFCFTM-15-1

Level: Level 4

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Environment & Technology

Department: FET Dept of Computer Sci & Creative Tech

Partner institutions: None

Delivery locations: Not in use for Modules

Field: Computer Science and Creative Technologies

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Not applicable

Educational aims: See Learning Outcomes

Outline syllabus: Plan, develop and test interactive WebApps using suitable client and server side scripting languages. These could include:

Client-side; e.g. HTML5, CSS3, JavaScript, jQuery

Server-side; e.g. PHP, ASP, Ruby/Rails

Frameworks; e.g. jQuery, AngularJS, React, Laravel, APIs; e.g. SOAP, REST, JSON

Use a suitable database engine e.g. SQL/NoSQL. Build a secure, performance-optimised database solution to power a WebApp

Develop professional user interfaces for at least one user level

Build and publish/deploy the completed project to a suitable enterprise webserver or hosting platform for general availability

Explain what penetration testing is and how it contributes to information assurance

Complete penetration testing on a platform and record findings (e.g. SQL/code injection, data sanitisation, LFI/RFI, XSS, DDoS, brute force attacks)

Part 3: Teaching and learning methods

Teaching and learning methods: Introductory lectures are supported by seminars, case studies, visits and practical workshops. In addition this module will be supported by interactive forums and learning tools.

150 hours study time of which 36 hours will represent scheduled learning. Scheduled learning includes lectures, seminars, tutorials, demonstration, practical classes and workshops; external visits; supervised time in studio/workshop.

Independent learning includes hours engaged with essential reading, case study preparation, assignment preparation and completion. Apprentice study time will be organised each week with a series of both essential and further readings and preparation for practical workshops. It is suggested that preparation for lectures, practical workshops, session delivery and seminars will take 7 hours per week.

36 hours scheduled learning

114 hours research, independent study and preparation for assessment work

Scheduled learning will typically include lectures, seminars, supervision, external visits and an interactive forum.

All apprentices are expected to attend a series of tutorials.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Explain common security risks present when building and publishing public facing web applications and best practice security and authentication (e.g. SQL injection protection, code injection/data validation, protection from brute force attacks, encryption and hashing techniques)

MO2 Explain penetration testing and how it contributes to information assurance using examples or scenarios

MO3 Plan, design, implement and test a WebApp to support a business scenario

MO4 Implement a secure WebApp back-end demonstrating best practice security and authentication (e.g. SQL injection protection, code injection/data validation, protection from brute force attacks)

MO5 Build, manage and deploy the completed project into an enterprise hosting environment

MO6 All data must be stored and retrieved from an appropriately structured SQL database

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Total = 150

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/index.html) via the following link <https://uwe.rl.talis.com/index.html>

Part 4: Assessment

Assessment strategy: This module is assessed by a combination of techniques: an examination and a practical portfolio.

Exam (includes the following):

Explain some of the common authentication and security considerations facing web application developers and hosts as per the prescribed syllabus content.

An analysis of the computing and security needs in a given case study

Describe common penetration testing processes and how they can be applied to

WebApp testing and application development cycle

Practical Portfolio (includes the following):

Evidence of planning and design of a WebApp to support a business scenario

Implementation of a WebApp to support a business scenario Deploying and test a completed WebApp in a live/enterprise environment

Opportunities for formative assessment exist for the assessment strategy used.

Verbal feedback is given and all apprentices will engage with personalised tutorials setting SMART targets as part of the programme design.

Assessment components:

Portfolio (First Sit)

Description: Design, build, publish and test a business webapp to meet a defined requirement

Weighting: 70 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO4, MO5, MO6

Examination (First Sit)

Description: Internet Architecture Exam (1.5 Hours)

Weighting: 30 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2

Portfolio (Resit)

Description: Design, build, publish and test a business webapp to meet a defined requirement

Weighting: 70 %

Final assessment: No

Group work: No

Learning outcomes tested:

Examination (Resit)

Description: Internet Architecture Exam (1.5 Hours)

Weighting: 30 %

Final assessment: Yes

Group work: No

Learning outcomes tested:

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Digital and Technology Solutions (Software Engineer) {Apprenticeship-UCW} [UCW]
BSc (Hons) 2022-23

Digital and Technology Solutions (Data Analyst) {Apprenticeship-UCW} [UCW] BSc (Hons) 2022-23

Digital and Technology Solutions (Business Analyst) {Apprenticeship-UCW} [UCW] BSc (Hons) 2022-23

Digital and Technology Solutions (Cyber Security Analyst) {Apprenticeship-UCW} [UCW] BSc (Hons) 2022-23