Module Specification

Webapp Development

Version: 2023-24, v3.0, 11 Jul 2023

Contents

Part 1: Information

Module title: Webapp Development

Module code: UFCF8R-30-2

Level: Level 5

For implementation from: 2023-24

UWE credit rating: 30

ECTS credit rating: 15

Faculty: Faculty of Environment & Technology

Department: FET Dept of Computer Sci & Creative Tech

Partner institutions: Gloucestershire College, Weston College

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: Advancements in web platforms, portability, scalability and highly interactive web application experiences have resulted in Web Applications replacing many traditionally installed applications in business.

In this module you will explore the legislative, technical and security challenges facing developers in creating and publishing applications to meet a defined business need, and cultivate independent technical judgement in the use of techniques and

tools associated with web technologies. As well as being able to develop the ability to think conceptually and translate concepts into reality, you will go beyond programming web applications, and develop skills in security, penetration testing and user experience.

Features: Not applicable

Educational aims: To be able to use a range of professional tools and techniques in all phases of web application development.

To design and implement effective, legal and secure web applications.

To be able to test security of web applications.

Outline syllabus: This module you will cither both theoretical underpinning WebApp technologies and the technical skills required to plan, develop and tes a WebApp to meet a business solution.

This module will teach core client and server side scripting languages. Languages for example:
Client-side; e.g. HTML5, CSS3, JavaScript, jQuery
Server-side; e.g. PHP, ASP, Ruby/Rails, Node, .net
Frameworks; e.g. jQuery, AngularJS, React, Laravel, .net core.
APIs, SOAP, REST, JSON, XML

In addition, the following core topics will be covered:
-Performance-optimised databases and their use in WebApp production.
-Database engines in WebApps e.g. SQL and/or NoSQL.-
-User interfaces/UX and Accessibility eg W3C, WCAG
-WebApp deployment, management and testing. and identifying suitable professional webserver or hosting platform
for public availability.
-Functional and security testing of a platform/WebApp.
-Benchmarking, auditing and/or penetration testing is and its contribution to information assurance.
-Key legalisation impacting the publication of Web Accessible Applications, eg Data

Governance (IPO, GDPR, Data Protection), Privacy policies, use of data, terms of use/service.

Part 3: Teaching and learning methods

Teaching and learning methods: There will be introductory lectures covering the fundamentals and technical underpinning of the module for the first assessment, before the module progresses to practical delivery through a series of lessons, workshops and practical tasks in the classroom to develop the tools and techniques required to complete the practical assessment for this module. Students are also provided with access to a suitable hosting platform to support the delivery and testing of this assessment.

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

MO1 Evaluate potential security risks and mitigation techniques when building and publishing public facing web applications.

MO2 Identify and explain the impact of key legislation on the publication of Web Accessible Applications.

MO3 Plan and implement a secure business Web Application

MO4 Test, manage and deploy a business Web Application onto an enterprise hosting environment.

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 228 hours

Face-to-face learning = 72 hours

Total = 300

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://rl.talis.com/3/uwe/lists/63EB8ED9-A3C2-2077-6FE1-31A17B726878.html

Part 4: Assessment

Assessment strategy: This module is assessed using a combination of a 90 minute online technical examination and a WebApp practical portfolio which will require you to develop and test a WebApp solution to a business scenario.

The examination will contain a combination of multiple choice questions and scenarios focusing on the technical understanding of web app development, key protocols, accessibility and legislative concerns.

The practical portfolio will require students to develop, publish, and test a WebApp solution. The site should be database driven and utilise Server-Side scripting to create a complex solution that must be published and tested on a live web hosting environment.

The resit opportunity for the portfolio follows the same format as the first sit: Consideration for a re-worked solution could be made. Tutor-lead formative feedback will be available throughout the module.

Assessment tasks:

Examination (Online) (First Sit)
Description: Online Examination (90 Mins)
Weighting: 30 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2

Portfolio (First Sit)
Description: Portfolio - design, build, publish and test a business WebApp
Weighting: 70 %
Final assessment: Yes
Group work: No

Learning outcomes tested: MO3, MO4

Examination (Online) (Resit)

Description: Online Examination (2 Hours)

Weighting: 30 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2

Portfolio (Resit)

Description: Portfolio - design, build, publish and test a business WebApp

Weighting: 70 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO3, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Applied Computing[UCW] BSc (Hons) 2022-23