Module Specification

Webapp Development

Version: 2021-22, v3.0, 30 Jun 2020

Contents

Part 1: Information

Module title: Webapp Development

Module code: UFCF8R-30-2

Level: Level 5

For implementation from: 2021-22

UWE credit rating: 30

ECTS credit rating: 15

Faculty: Faculty of Environment & Technology

Department: FET Dept of Computer Sci & Creative Tech

Partner institutions: None

Delivery locations: University Centre Weston

Field: Computer Science and Creative Technologies

Module type: Standard

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 legislate, technical and security challenges facing developers in creating and publishing applications to meet a defined business need.

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: 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: Overview of planning, developing and testing a WebApp to meet a predefined business solution.

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, APIs, SOAP, REST, JSON

Performance-optimised databases and their use in WebApp production.
Database engines in WebApps e.g. SQL/NoSQL.

User interfaces.
WebApp deployment, management and testing.

Identifying suitable professional webserver or hosting platform
for public availability.

Common Webapp vulnerabilities and common security mitigation techniques e.g. SQL/code injection, data sanitisation, LFI/RFI, XSS, DDoS, brute force attacks.

Functional and security testing of a platform/WebApp.

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: Introductory lectures covering the fundamentals and technical underpinning of the module for the first assessment before progressing onto 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 present when building and publishing public facing web applications. On successful completion of this module students will achieve the following learning outcomes.

MO2 Evaluate the contribution that particular security tools and techniques make to information and/or security assurance . On successful completion of this module students will achieve the following learning outcomes.

MO3 Identify and explain the impact of key legalisation on the publication of Web Accessible Applications. On successful completion of this module students will achieve the following learning outcomes.

MO4 Plan, design, implement and test a secure WebApp. On successful completion of this module students will achieve the following learning outcomes.

MO5 Manage and deploy a WebApp into an enterprise hosting environment.

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 192 hours

Face-to-face learning = 108 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: The WebApp Development module is assessed using a combination of a technical examination and WebApp practical portfolio.

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

Tutor-lead formative feedback will be available throughout the module.

Assessment components:

Examination (Online) - Component A (First Sit)
Description: Online Examination (2 Hours)
Weighting: 30 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Portfolio - Component B (First Sit)

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

Weighting: 70 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO4, MO5

Examination (Online) - Component A (Resit)

Description: Online Examination (2 Hours)

Weighting: 30 %

Final assessment: No

Group work: No

Learning outcomes tested:

Portfolio - Component B (Resit)

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

Weighting: 70 %

Final assessment: Yes

Group work: No

Learning outcomes tested:

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Applied Computing[Sep][FT][UCW][3yrs] BSc (Hons) 2020-21

Applied Computing [Sep][PT][UCW][3yrs] FdSc 2019-20