Module Specification

Advanced Topics in Web Development I

Version: 2024-25, v4.0, 05 Jul 2024

Contents

Part 1: Information

Module title: Advanced Topics in Web Development I

Module code: UFCFX3-15-3

Level: Level 6

For implementation from: 2024-25

UWE credit rating: 15

ECTS credit rating: 7.5

College: College of Arts, Technology and Environment

School: CATE School of Computing and Creative Technologies

Partner institutions: None

Field: Computer Science and Creative Technologies

Module type: Module

Pre-requisites: Web Programming 2024-25

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Pre-requisites: students must take one out of UFCFR3-30-1 Information Technology or UFCFS5-30-1 Introduction to Web Platforms or UFCF8L-30-1 Introduction to Creative Coding or UFCFC3-30-1 Introduction to OO Systems Development or UFCFB3-30-1 Web Programming or UFCFWA-30-1 C++ Programming

Features: Not applicable

Educational aims: See Learning Outcomes

In addition to the Learning Outcomes the educational experience may explore, develop, and practise but not formally discretely assess the following:

Self-study of programming languages and techniques using a range of web development languages.

Outline syllabus: The syllabus will combine compulsory web oriented and programming principles and an optional set of technology topics selected by students with tutor guidance

Compulsory coverage will include:

Web and service-oriented architectures
Software architectures
Object-oriented programming for the web
An introduction to software design patterns
An overview of web programming practices (model- and test-driven design, version control, load testing)

Optional topics will vary but may include:

JavaScript libraries, tools and techniques

Advanced CSS techniques
Utilising Canvas, SVG or WebGL
MVC demonstrators in Ruby, Python, JavaScript or PHP
NoSQL databases

Part 3: Teaching and learning methods

Teaching and learning methods: Lectures will cover the compulsory topics with illustrations of topics in PHP and JavaScript Tutorials will consist of practical programming exercises in PHP and JavaScript, with further time dedicated to development of topics connected to the coursework and presentation. Students will be given time to select a key topic and develop their prototype

Toward the end of the module, students will describe and present their work.

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

MO1 Apply web architectures, standards, and software patterns in web development.

MO2 Utilise advanced programming techniques such as functional and object-oriented paradigms, to solve complex real-world web development problems.

MO3 Critically analyse and evaluate emerging technologies and tools in web programming for real-world scenarios.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Total = 0

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/ufcfx3-15-3.html

Part 4: Assessment

Assessment strategy: The assessment for this module is an assignment where students are expected to implement a web solution based on the techniques, standards and frameworks explored during class.

Support for assessment preparation will be provided during the labs over the course of the semester. The assignment will be marked as an individual task, supported by laboratory sessions, and assessed for understanding and application of web technologies, programming standards, and documentation.

Lecture materials and tutorial worksheets will provide the technical basis for the assignment.

Both first sit and resit will follow the same brief.

Assessment tasks:

Project (First Sit)
Description: Individual design and implementation task, and short write up (max 800 words).
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Project (Resit)
Description: Individual design and implementation task, and short write up (max 800 words).
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Information Technology {Top-Up} [INTUNI] BSc (Hons) 2024-25

Information Technology {Top-Up} [Phenikaa] BSc (Hons) 2024-25

Information Technology {Top-Up} [SHAPE] BSc (Hons) 2024-25

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

Information Technology {Top-Up} [Frenchay] BSc (Hons) 2023-24

Information Technology {Top-Up} [INTUNI] BSc (Hons) 2023-24

Business Computing [Frenchay] BSc (Hons) 2023-24

Information Technology {Top-Up} [INTUNI] BSc (Hons) 2024-25

Computing {Foundation} [Sep][SW][Frenchay][5yrs] - Not Running BSc (Hons) 2020-21

Software Engineering for Business {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2021-22

Computing [Sep][SW][Frenchay][4yrs] - Not Running BSc (Hons) 2021-22

Computing {Foundation} [Sep][FT][Frenchay][4yrs] - Not Running BSc (Hons) 2021-22

Computing [Sep][FT][Frenchay][3yrs] - Not Running BSc (Hons) 2022-23

Information Technology Management for Business [Frenchay] BSc (Hons) 2022-23

Software Engineering for Business [Frenchay] BSc (Hons) 2022-23

Business Computing {Foundation} [Frenchay] BSc (Hons) 2022-23

Information Technology {Dual}[Taylors] BSc (Hons) 2022-23