



Module Specification

Advanced Topics in Web Development 2

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Part 1: Information

Module title: Advanced Topics in Web Development 2

Module code: UFCFR5-15-3

Level: Level 6

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

Field: Computer Science and Creative Technologies

Module type: Module

Pre-requisites: Web Programming 2023-24

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Pre-requisites: 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 Entertainment Software Design

Features: Not applicable

Educational aims: In addition to the learning aims, the educational experience may explore, develop, and practise but not formally discretely assess the following:

Self-study of web-oriented design patterns and techniques using a range of web development languages.

Outline syllabus: The module will build upon and extend topic and principles introduced in Advanced Topics in Web Development I, with a deeper treatment and broader range of examples relating to:

Web and service-oriented architectures

Software architectures

Object-oriented programming for the web

Identification and selection of software design patterns

Web programming practices (model- and test-driven design, version control, load testing)

In addition, the module will introduce:

Web server configuration and deployment

Functional programming

Key language-specific libraries and package management and deployment tools

Documentation techniques

Examples and student work may be selected from a range of web languages, including:

PHP

JavaScript

Python

Ruby

C#

Part 3: Teaching and learning methods

Teaching and learning methods: Lectures will introduce curriculum topics and provide demonstrations of tools and techniques.

Tutorials will combine structured programming tasks with development of the assessed coursework application (Element B). Support and feedback on the development approach will be provided by tutors.

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

MO1 Describe and critique web architectures, software design patterns and objectoriented, functional approaches to specific tasks

MO2 Provide syntactically correct examples of software design pattern implementations in a language of their choice

MO3 Describe and evaluate the use of contemporary tools and techniques at the relevant stage in the web development project life-cycle

MO4 Select and apply a web framework in the language of their choice to a non-trivial programming task involving REST and MVC implementations

MO5 Demonstrate appropriate use of development methods, testing and software documentation

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

E-learning/online 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/modules/ufcfr5-15-3.html) via the following link <https://uwe.rl.talis.com/modules/ufcfr5-15-3.html>

Part 4: Assessment

Assessment strategy: At both first sit and resit, assessment is divided between an exam to test both theoretical and analytical skills and a coursework assignment.

The examination will typically consist of a compulsory section focusing on core technical knowledge and a selective section testing more specialized in-depth knowledge.

Answers will be assessed for completeness, technical correctness and the application of sound design principles. Thorough answers that show evidence of wider reading and independent learning will score highly.

Support for examination preparation through preparatory questions and worked answers will be provided.

The coursework assignment will normally be marked as an individual task supported by tutor and group based work during laboratory sessions.

The coursework will be assessed for the sound understanding and application of web technologies, programming standards and adequate documentation.

Weekly material presented in lectures and tutorial worksheets will provide the technical basis for the coursework assignment.

Assessment tasks:**Set Exercise (First Sit)**

Description: Build, test and document a Web-based Framework

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO4, MO5

Examination (Online) (First Sit)

Description: Online Examination (3 hours)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Set Exercise (Resit)

Description: Build, test and document a Web-based Framework

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO4, MO5

Examination (Online) (Resit)

Description: Online Examination (3 hours)

Weighting: 50 %

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} [SHAPE] BSc (Hons) 2023-24

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

Digital and Technology Solutions (Software Engineer) {Apprenticeship-UCW}
[Sep][FT][UCW][4yrs] BSc (Hons) 2020-21

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

Information Technology {Top-Up} [Frenchay] BSc (Hons) 2022-23

Computer Science [Sep][FT][Villa][3yrs] - Not Running BSc (Hons) 2021-22

Computer Science [May][FT][Villa][3yrs] - Not Running BSc (Hons) 2021-22

Computer Science [Jan][FT][Villa][3yrs] - Not Running BSc (Hons) 2021-22

Digital Media [Sep][FT][Frenchay][3yrs] BSc (Hons) 2021-22

Information Technology {Dual}[Mar][FT][Taylors][3yrs] BSc (Hons) 2021-22

Digital Media {Foundation}[Sep][FT][Frenchay][4yrs] BSc (Hons) 2020-21

Computer Science {Foundation} [Sep][FT][Frenchay][4yrs] - Not Running BSc (Hons)
2020-21

Computer Science [Sep][SW][Frenchay][4yrs] - Not Running BSc (Hons) 2020-21

Digital Media [Sep][SW][Frenchay][4yrs] BSc (Hons) 2020-21

Digital Media {Foundation}[Sep][SW][Frenchay][5yrs] BSc (Hons) 2019-20

Computer Science {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2019-20