MODULE SPECIFICATION

Part 1: Information			
Module Title	Advanced Topics in Web Development I		
Module Code	UFCFX3-15-3	Level	Level 6
For implementation from	2019-20		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Computer Science and Creative Technologies
Department	FET Dept of Computer Sci & Creative Tech		
Module type:	Standard		

Pre-requisites	Web Programming 2019-20
Excluded Combinations	None
Co- requisites	None
Module Entry 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

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

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.

There will be two contact hours per week consisting of a one-hour lecture and a one-hour lab-based practical session.

Contact time: 3 hours per week

Activity (hrs)
Contact time (36)
Assimilation and development of knowledge (70)
Exam preparation (20)
Coursework preparation (24)
Total study time (150)

Part 3: Assessment

Assessment is divided between an exam to test both theoretical and analytical skills and a coursework assignment.

The examination (A component) 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 (B component) 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.

First Sit Components	Final Assessment	Element weighting	Description
Project - Component B		50 %	Research and build a prototype implementation.
Examination - Component A	✓	50 %	Examination (3 hours)
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Project - Component B		50 %	Individual design and implementation task
Examination - Component A	✓	50 %	Examination (3 hours)

Part 4: Teaching and Learning Methods

Learning Outcomes

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

Module Learning Outcomes	Reference
Understand both established and emerging web architectures and the contribution made by standards and communication protocols	MO1
Demonstrate the value of applying object oriented and functional programming techniques to web application development	MO2
Recognise the benefits of common software patterns and architectures and how they are applied in practice	MO3
Identify, select and apply specific software programming patterns for specific use cases and real-world problems	MO4
Develop specific knowledge of a new or emerging technology and how it may be applied in practice	MO5
Gain exposure to a range of current tools and techniques in web programming	MO6

Contact Hours

Independent Study Hours:	
Independent study/self-guided study	114
Total Independent Study Hours:	114
Scheduled Learning and Teaching Hours:	
Face-to-face learning	36
Total Scheduled Learning and Teaching Hours:	36
Hours to be allocated	150
Allocated Hours	150

Reading List

The reading list for this module can be accessed via the following link:

https://uwe.rl.talis.com/modules/ufcfx3-15-3.html

Part 5: Contributes Towards
This module contributes towards the following programmes of study: Business Computing [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19 Business Computing [Sep][SW][Frenchay][4yrs] BSc (Hons) 2018-19