Module Specification

Advanced Web Development

Version: 2026-27, v2.0, Approved

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Part 1: Information

Module title: Advanced Web Development

Module code: UFCE3Q-30-3

Level: Level 6

For implementation from: 2026-27

UWE credit rating: 30

ECTS credit rating: 15

College: College of Arts, Technology and Environment

School: CATE School of Computing and Creative Technologies

Partner institutions: School for Higher and Professional Education

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: This module aims to provide students with a deep understanding of advanced web development techniques, tools, and methodologies. It builds upon previous web development and programming concepts learned in earlier years and enhances students' skills in designing, implementing, and maintaining complex, responsive, and scalable web applications.

Features: Not applicable

Educational aims: The Advanced Web Development module aims to provide students with a comprehensive understanding of advanced web development concepts, tools, and technologies, enabling them to create sophisticated web applications for various devices and platforms. The module focuses on enhancing problem-solving and critical thinking abilities by applying advanced programming techniques to address complex web development challenges. Students will learn the importance of web standards, best practices, accessibility guidelines, and web application security principles to create inclusive, user-friendly, and secure web experiences.

Additionally, the module aims to foster effective collaboration, communication skills, and a mindset of continuous learning and adaptability by exposing students to current and emerging trends in web development. Students will be equipped with practical skills and knowledge necessary for deploying, maintaining, and monitoring web applications in production environments, ultimately preparing them for careers in web development and related fields.

Outline syllabus: Indicative topics will include but not be limited to:

Advanced HTML and CSS Techniques
Front-End Frameworks and Libraries
Back-end Web Development
Responsive Web Design and Performance Optimisation
Advanced Database Management – SQL Database
Web and Service-Oriented Architectures
Software Design Patterns and Software Architectures
Web Application Deployment and Maintenance – version control, testing, continuous integration and deployment
Advanced Database Management – NoSQL Database
Web Application Security – authentication, authorisation, secure coding practices, web vulnerability prevention
Emerging trends and technologies, e.g. progressive web apps, web components, micro-frontends, serverless architectures, etc.

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 the development of the assessed coursework application. 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 Analyse and evaluate web standards, communication protocols and emerging technologies, demonstrating the ability to apply object-oriented and/or functional programming techniques in web application development.

MO2 Recognise and apply common software patterns, and web architectures in practice.

MO3 Demonstrate proficiency in using contemporary tools, techniques, and web frameworks throughout the web development project lifecycle, in a language of the student's choice.

MO4 Employ effective development methods, testing strategies and software documentation practices to create and critique web applications, showcasing an understanding of the importance of these practices in the development process.

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 228 hours

Computer-based activities = 48 hours

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/F04721D0-1589-FFBD-4AF7-99F8BAC7D92A.html

Part 4: Assessment

Assessment strategy: Students will work in groups to design and develop a web application that demonstrates advanced web development techniques, accompanied by a critical report evaluating its design, implementation, performance, and adherence to web standards. The assessment also includes a group presentation and individual reflections on contributions and collaboration.

The resit strategy remains the same as the first sit.

Assessment tasks:

Project (First Sit)
Description: Group project: Web Application, Report, Presentation, and Reflection
Weighting: 100 %
Final assessment: Yes
Group work: Yes
Learning outcomes tested: MO1, MO2, MO3, MO4

Project (Resit)
Description: Group project: Web Application, Report, Presentation, and Reflection
Weighting: 100 %
Final assessment: Yes
Group work: Yes
Learning outcomes tested: MO1, MO2, MO3, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Information Technology {Top-Up} [SHAPE] BSc (Hons) 2026-27

Information Technology {Top-Up} [SHAPE] BSc (Hons) 2026-27

Information Technology {Top-Up} [INTUNI] BSc (Hons) 2025-26

Information Technology {Dual}[Taylors] BSc (Hons) 2024-25

Information Technology {Dual}[Taylors] BSc (Hons) 2024-25

Information Technology {Top-Up} [Frenchay] BSc (Hons) 2025-26

Information Technology {Top-Up} [Frenchay] BSc (Hons) 2026-27

Information Technology {Top-Up} [Frenchay] BSc (Hons) 2026-27

Information Technology {Top-Up} [INTUNI] BSc (Hons) 2026-27

Information Technology {Top-Up} [Phenikaa] BSc (Hons) 2026-27