Module: Web Frontend Scripting 361

Module name:	Web Frontend Scripting 361
Code:	WFS361
NQF level:	6
Type:	Speciality – Diploma in Information Technology (Web Development)
Contact time:	168 hours
Structured time	28 hours
Self-directed time	84 hours
Notional hours:	280 hours
Credits:	28
Prerequisites:	WPR261

Purpose

The purpose of the course is to introduce interactive and dynamic web design using a frontend web framework or library. The course covers important concepts related to how frameworks and libraries can be used to build client-facing, feature-rich applications in a declarative way using modern techniques.

Learners will learn how to implement templating, frontend routing, state management, handling user input, and working with events.

Outcomes

Upon successful completion of this module, the student will be able to demonstrate:

- Detailed knowledge of frontend web development, including an understanding of and the ability to build composable, scalable and testable user interfaces; and an understanding of how web development relates to the broader field of software development.
- The use of appropriate, clear and concise vocabulary that is esoteric to web application development.
- The ability to identify, analyse and solve problems by creating modern websites that accommodate specified requirements and constraints, based on analysis, requirements modelling and specification.
- The ability to communicate effectively with a variety of audiences through a range of modes and media, in particular to present a clear, coherent and independent exposition of functional websites to any type of audience via reports or presentations and using appropriate discourse.
- The ability to work as part of a team, and to take responsibility for decisions and actions taken within the team.

Assessment

Assessment is performed using a variety of instruments:

- Continuous evaluation of theoretical work through one written assignment, two practical projects, two formative assessments, and a summative test.
- Continuous evaluation of practical work, whereby the student must create and deploy a website.
- Final assessment through a written examination.

Teaching and Learning

Learning materials

Prescribed books (EBSCO)

- 🕮 ***Carlos Santana Roldán (2019)*** **React Design Patterns and Best Practices : Design, Build and Deploy Production-ready Web Applications Using Standard Industry Practices, 2nd Edition.** ***Birmingham, UK: Packt Publishing.***
- 🕮 ***Singh, H. and Bhatt, M. (2016)*** **Learning Web Development with React and Bootstrap.** ***Birmingham, UK: Packt Publishing.***

Learning activities

The teaching is a combination between presentation of practical and theoretical concepts, and exercises and discussions. It is practice-oriented, with a mandatory assignment and project which must be completed during the course.

Notional learning hours

Contact	Distance	Other	Type of learning activities	% Learning
y	y	n	Lectures (face-to-face, limited interaction or technologically mediated)	40%
y	y	n	Tutorials: individual groups	20%
n	y	n	Syndicate groups	10%
n	y	n	Independent self-study of standard texts and references (study guides, books, journal articles)	10%
n	y	n	Independent self-study of specially prepared materials (case studies, multi-media, etc.	20%

Syllabus

- ES6 (JavaScript) Concepts
- Primer: Web frameworks and libraries
- React overview
- Templating using JSX
- Working with React components
- Working with React hooks
- Working with React state and props
- Rendering lists in React
- Event handling
- Working with forms
- Frontend routing using React Router
- State management with Redux