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:	130 hours
Structured time	16 hours
Self-directed time	104 hours
Notional hours:	250 hours
Credits:	25
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 2 assignments, 6 formative tests and a summative test.
- Continuous evaluation of project work, where the student must design, manage and report on the evaluation of testing methodologies and the selection of an appropriate methodology for a given scenario, justifying the choice made with well-formed arguments and evidence.

- Final assessment through an examination.
- The assignments or projects collectively will count 30% of your class mark.
- All tests will collectively account for 70% of your class mark.
- Your class mark contributes 30% towards your final mark for the subject, while the final assessment accounts for 70% of your final mark.

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 2 mandatory assignments and 2 project which must be completed during the course.

Notional learning hours

Activity	Units	Contact Time	Structured Time	Self-Directed Time
Lecture		117.0		39.0
Formative feedback		9.0		
Project	2	4.0		14.0
Assignment	2			6.0
Test	7		14.0	21.0
Exam	1		2.0	27.0
		130.0	**16.0**	**104.0**

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