Module: Web Programming 261

Module name:	Web Programming 261
Code:	WPR261
NQF level:	6
Type:	Fundamental – Diploma in Information Technology (Software Development stream)
Contact time:	48 hours
Structured time	8 hours
Self-directed time	64 hours
Notional hours:	120 hours
Credits:	12
Prerequisites:	WPR161; PRP161

Purpose

The purpose of the course is to introduce interactive and dynamic web design using a programming language. The course covers language-specific details that need to be implemented in order to achieve the desired results. It will also look at how data should be represented for it to be best transmitted between the client and server.

Outcomes

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

- Demonstrate detailed knowledge of the main areas of dynamic website programming, including an understanding of and the ability to apply the principles of programming to the area of web development.
- Evaluate, select and apply appropriate website development techniques to create and deploy a dynamic website by analysing and modelling requirements.
- Identify, analyse and solve problems by creating dynamic websites that accommodate specified requirements and constraints, based on analysis or modelling or requirements specification.
- 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 IT and/or non-IT personnel via reports or presentations.

Assessment

Assessment is performed using a variety of instruments:

- Continuous evaluation of theoretical work through a written assignment, a formative test, and a summative test.
- Continuous evaluation of project work.
- Final assessment through a written 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)

- 🕮 ***Mantyla, D. (2015)*** **Functional Programming in JavaScript.** ***Birmingham, UK: Packt Publishing (Community Experience Distilled).***
- 🕮 ***Danny Goodman*** **et al.** ***(2010)*** **JavaScript Bible.** ***Hoboken, N.J.: Wiley.***

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

Activity	Units	Contact Time	Structured Time	Self-Directed Time
Lecture		40.0		28.0
Formative feedback		5.0		
Project	1	3.0		9.0
Assignment	1			3.0
Test	3		6.0	11.0
Exam	1		2.0	13.0
		48.0	**8.0**	**64.0**

Syllabus

- Fundamentals of web programming including the use of variables, decision constructs and looping structures.
- Object representation of data.
- Creating dynamic websites through the application of functional programming in web development.
- Introduction to asynchronous web programming in JavaScript.