Module: Web Programming 171

Module name:	Web Programming 171
Code:	WPR171
NQF level:	5
Type:	Core – Bachelor of Information Technology
Contact time:	56 hours
Structured time	8 hours
Self-directed time	66 hours
Notional hours:	130 hours
Credits:	13
Prerequisites:	None

Purpose

The purpose of this course is to enable the student to design and develop web pages and/or websites. The emphasis will be on layout, structure and content presentation. Good design principles will be covered, as well as integration of multimedia elements in web pages. Additionally, the course will cover basic web server concepts and the HTTP paradigm.

Outcomes

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

- An informed understanding of the core area of web development including an informed understanding of its key terms, principles and concepts such as network protocols and web servers.
- The ability to use standard mark-up, styling techniques, visual elements and development tools to create and deploy a website on a web server.
- The ability to evaluate and solve a given problem to create a web-based application.
- The ability to gather information from a range of resources, including but not limited to the internet, to select and evaluate information appropriate to represent specific content on a website.
- The ability to communicate information reliably, accurately and coherently, using terms and conventions appropriate to web design and development in a practical demonstration.
- An understanding of and respect for conventions around copyright and plagiarism.

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

- Presentation notes and hand-outs
- Web Programming: Introduction – IT Without Frontiers

Additional Material

   📖 Michael Mendez (2014). The Missing Link: An Introduction to Web Development and Programming, Open Sunny, ISBN 13: 978-0-9897226-5-0.

   📖 Jon Ducket, (2011). *HTML & CSS*, John Wiley & Sons, Inc., ISBN: 978-1-118-00818-8.

   📖 Leon Shklar, Richard Rosen (2003). *Web Application Architecture*, John Wiley & Sons, ISBN 0-471-48656-6.

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		24.0
Formative feedback		9.0		
Project	2	7.0		15.0
Assignment	1			3.0
Test	3		6.0	11.0
Exam	1		2.0	13.0
		56.0	**8.0**	**66.0**

Syllabus

- Web concepts, standards and protocols Web (such as HTML, HTTP, URLs, CSS, XML).
- Fundamental concepts of web servers.
- Overview of web server configuration.
- Core configuration directives.
- HTTP Content negotiation.
- Creating and managing virtual hosts
- Principles of good UI web design.
- Integrated Development Environments.
- Web document structure and content-integration.
- Web-page layouts and formatting.
- Design and implementation of web site(s) with regards to issues of usability and accessibility.
- Website validation.
- Deploying a website.