UNIVERSITY of BRADFORD

Module Details	
Module Title	Internet Technologies
Module Code	COS4018-B
Academic Year	2022/3
Credits	20
School	Department of Computer Science
FHEQ Level	FHEQ Level 4

Contact Hours	
Type	Hours
Tutorials	12
Lectures	12
Laboratories	24
Directed Study	152

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 2

Module Aims

To provide the background knowledge of computer and networked systems and the World Wide Web, and their modes of operation. To introduce the fundamental concepts of Internet technologies, the underlying protocols and typical ways of delivering static and dynamic material from a server to a client through several different programming languages, markup languages and meta- markup languages. Material will provide knowledge and understanding of protocols (such as ftp, ssh, http, https), web hosting servers (e.g. typical systems such as LAMP, XAMPP), web scripting (client side and server-side scripting).

Outline Syllabus

Introduction to networked computers and servers; addressing and domain names; Internet technologies; Internet functionalities, file transfers, operating systems; protocols (such as ftp, ssh, http, https); ISPs, web hosting servers (e.g. typical systems such as LAMP); web scripting (client-side and server-side) and programming languages (including HTML, XHTML, XML, CSS, and reference to JavaScript, PHP); user interface design and implementation for web applications. Examples of cloud-based services; IaaS, PaaS, SaaS.

Learning Outcomes

Outcome Number	Description
O1	a. discuss and apply operating principles and basic functionalities of Internet technologies and demonstrate how they communicate, can be programmed and used for web applications; b. design, develop, deploy and maintain static and dynamic websites;
O2	a. represent, process and transfer information over the Internet; b. analyse and discuss the principles of data transfer on World Wide Web; use the Internet as a tool for information processing and communication; c. use most current web development and programming technologies for platform-independent web applications.
O3	a. analyse and apply the modes of communication using Internet technologies to present, program and communicate information on the Internet

Learning, Teaching and Assessment Strategy

Learning outcomes 1a, 1b, 2a, 2b, 2c are addressed in a combination of formal lectures; computer-based laboratory practical exercises, on-line web-based resources and directed reading. They are supplemented by tutorials intended to provide reinforcement by direct engagement with taught material and allow for some degree of flexibility in response to student needs, and addressing learning outcomes 1b, 2b, 2c and 3a. Students will also be expected to read and explore a variety of Internet and text resources, together with elementary practical work in directed study hours, reading of documentation such as journal papers and book sections, and online material. Practical understanding and skills will be tested through a coursework by developing a dynamic web application. Theoretical knowledge of different aspects associated with Internet Technologies such as information representation and processing technologies, principles of data transfer, and web development technologies will be assessed in a 1-hour computer-based examination. The supplementary assessment will be the same as the original assessment.

Mode of Assessment

Type	Method	Description	Weighting
Summative	Coursework - Artefact	Develop a dynamic web application based on a real case study to demonstrate an example of Internet Technologies 2000w	60%
Summative	Computerised examination	An on-campus computer-based assessment.	40%

Reading List

To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:
This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.