

Module Code:	CONL713
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Module Title:	Software Development for the Web
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Level:	7	Credit Value:	15
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Cost Centre(s):	GACP	<u>JACS3</u> code:	I390
		<u>HECoS</u> code:	100374

Faculty:	FAST	Module Leader:	Jessica Muirhead
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Scheduled learning and teaching hours	15 hrs
Guided independent study	135 hrs
Placement	0 hrs
Module duration (total hours)	150 hrs

Programme(s) in which to be offered (not including exit awards)	Core	Option
MSc Computer Science (online)	✓	<input type="checkbox"/>
MSc Computer Science with Networking	✓	<input type="checkbox"/>
MSc Computer Science with Software Engineering	✓	<input type="checkbox"/>

Pre-requisites
Studied CONL701 Critical Research for Postgraduate Study

Office use only

Initial approval: 04/09/2019

Version no:1

With effect from: 01/01/2020

Date and details of revision:

Version no:

Module Aims

This module will introduce students to online software development with modern languages and platforms such as HTML5, CSS3, Javascript, PHP and MySQL. Through a series of practical exercises, students will learn how to design, build and deploy their own website project.

Intended Learning Outcomes

Key skills for employability

- KS1 Written, oral and media communication skills
- KS2 Leadership, team working and networking skills
- KS3 Opportunity, creativity and problem solving skills
- KS4 Information technology skills and digital literacy
- KS5 Information management skills
- KS6 Research skills
- KS7 Intercultural and sustainability skills
- KS8 Career management skills
- KS9 Learning to learn (managing personal and professional development, self-management)
- KS10 Numeracy

At the end of this module, students will be able to

Key Skills

At the end of this module, students will be able to		Key Skills	
1	Select and explain the different tools, technologies and languages available for creating online web systems.	KS1	KS3
		KS4	KS5
		KS6	KS10
2	Critically evaluate the business related issues, context role and architecture of web-based information systems.	KS1	KS3
		KS7	KS8
3	Evaluate and justify the choice of language and platform for a website.	KS1	KS3
		KS4	KS5
		KS6	KS7
4	Identify and develop personal technical skills by building a website using modern web technologies.	KS2	KS4
		KS5	KS8
		KS9	KS10
5	Evaluate, justify and reflect upon the implementation of online systems to meet organisational requirements.	KS3	KS4
		KS5	KS9

Transferable skills and other attributes

- Personal motivation, organisation and time management
- Ability to collaborate and plan
- Written and verbal communication skills
- Research and analytical skills

Derogations

None

Assessment:

Indicative Assessment Tasks:

For Assessment 1, students will describe their approach and design for developing a solution to a complex problem given to the students as a simulated client brief. This will then be developed as a working prototype for Assessment 2 using web systems technologies such as HTML5, PHP, Javascript and CSS3.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)	Duration or Word count (or equivalent if appropriate)
1	1,2	Coursework	30%	1,000
2	3,4,5	Project	70%	2,000 (equiv)

Learning and Teaching Strategies:

The overall learning and teaching strategy is one of guided independent study requiring ongoing student engagement. Online material will provide the foundation of the learning resources, requiring the students to login and engage on a regular basis throughout the eight-week period of the module. There will be a mix of suggested readings, discussions and interactive content containing embedded digital media and self-checks for students to complete as they work through the material and undertake the assessment tasks. The use of a range digital tools via the virtual learning environment together with additional sources of reading will also be utilised to accommodate learning styles. There is access to a helpline for additional support and chat facilities through Canvas for messaging and responding.

Syllabus outline:

1. Introduction to online software development, the dynamic web and HTML5
2. PHP server-side programming
3. PHP arrays and objects
4. Forms and authentication
5. Javascript client-side programming
6. CSS3
7. HTML5 advanced features

Indicative Bibliography:

Essential reading

Nixon, R. (2018) *Learning PHP, MySQL & JavaScript*. 5ed. O'Reilly Media.

Other indicative reading

Dean, J. (2019) *Web Programming with HTML5, CSS and JavaScript*. Jones & Bartlett Learning.

Felke-Morris, T. (2018) *Web Development and Design Foundations with HTML5*. 9th ed. Upper Saddle River, NJ: Pearson Education.

Robbins, J. (2018) *Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript and Web Graphics*. 5th ed. Cambridge: O'Reilly.

Scobey, P. and Lingras, P. (2016) *Web Programming and Internet Technologies*. 2nd ed. Burlington, MA: Jones & Bartlett Learning.

The World Wide Web Consortium (n.d.) *W3C*. Available at: <http://www.w3.org/>

The World Wide Web Consortium (n.d.) *W3Schools*. Available at:
<https://www.w3schools.com/>

West, A. W., & Prettyman, S. (2019) *Practical PHP 7, MySQL 8, and MariaDB Website Databases*. 2nd ed. Apress.