MODULE **DESCRIPTOR**

MODULE TITLE	WEB TECHNOLOGIES		
MODULE CODE	CO1418 (L4)	CREDIT VALUE	20 UK CREDITS / 10 ECTS
SCHOOL	SCHOOL OF SCIENCES		

MODULE **AIMS**

1. To raise an awareness of commercial practices in digital online applications.
2. To create and evaluate interactive web-based material.
3. To develop an understanding of the structure of different interactive applications.
4. To investigate the context in which interactive technology is developed and applied.
5. To enable students to explore the field of online interactive applications by immersion in a practical, project-based environment.

MODULE **CONTENT**

Indicative syllabus content:

For a large number of people, the home computer is no longer the only system they use to run interactive applications. With the emergence of mobile technologies such as smart phones and tablet devices, and an almost ubiquitous presence of interactive consumer devices around the home the way in which we use these devices has evolved. With this in mind designers need to evolve the way that they design for future products. For example, with the emergence of touch screen devices a whole new area of gesture design and interaction needs to be considered.

The number of different form factors of devices people now use means the same data can be manipulated and accessed in many ways. This data needs to be presented to the user in a way that is useful to them in relation to the context of use at the time. Coupled with a continued trend in the increased use of cloud computing means people need fast, efficient access to online content more now than at any other time.

This module considers what is required to develop interactive applications for current and emerging technologies. The material has a focus on online applications, using HTML5, CSS3 and PHP as the basis for prototyping and developing an interactive application for use on a number of different devices.

General design issues related to the creation of interactive media are explored such as:
• Typography
• Colour Theory
• Icon Design
• Legibility

Technical issues in content creation are also explored, such as:
• Media and File Formats
• Compression
• Image Manipulation

The design of Interaction for multiple form factors in interactive applications is explored focussing on:
• Gesture Design and Interaction
• Interaction Design
• Context
• Metaphor
• Affordance & Mapping
• Feedback
• Accessibility

The practical side of the development of interactive applications:
HTML5
Validation

Tags
Structure
CSS3
Layout
Syntax
Integration with HTML5
Compatibility
PHP
Connecting to an online database
Retrieving data used by the website

INTENDED LEARNING OUTCOMES

On successful completion of this module a student will be able to:

1. Discuss the suitable types and formats of interactive media and identify relevant constraints for different platforms.
2. Design and evaluate the interface to an interactive application using appropriate criteria.
3. Justify a choice of interaction methods and identify appropriate contexts of use for interactive applications.
4. Apply industry standards and current approaches to implementing interactive applications for the web.
5. Connect an interactive application with a database using server-side scripting.

TEACHING METHODS

There will be an emphasis on practical work with the students conducting hands-on practical exercises that will equip them to complete a final implementation assignment. The module is supported by lectures, practical demonstrations and tutorials.

Students are encouraged to develop their understanding of interactive applications and apply their knowledge to the topic of their choice. As well as learning about current practices in the lectures students will have the opportunity to create their own material appropriate for interactive applications using Adobe Photoshop, HTML5, CSS3 and PHP. This practical experience will be used to draw out principles of good design, accessibility and Human Computer Interaction. Students are expected to use what they have learned in the lecture and practical sessions to reinforce their knowledge of the key concepts and techniques being taught.

The assignment will allow the students to apply practical skills and current theory to a realistic scenario, to experience the development of a usable system from initial concept to implementation, and to appreciate an evidence-based approach critiquing their product and the tools and techniques used in its development

They will design the user interface, implement it using a specified technology and systematically evaluate the product, considering the limitations of mobile technology, including functionality and performance.

ASSESSMENT METHODS

This module is assessed through a design, implementation and evaluation of an interface to a Web application from a mobile device.