

<b>Module Code:</b>	COM543
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<b>Module Title:</b>	Internet and Mobile Applications Development
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<b>Level:</b>	5	<b>Credit Value:</b>	20
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<b>Cost Centre(s):</b>	GACP	<b>JACS3 code:</b>	I610
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<b>Faculty:</b>	Arts, Science and Technology	<b>Module Leader:</b>	John Worden
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Scheduled learning and teaching hours	30 hrs
Guided independent study	170 hrs
Placement	0 hrs
<b>Module duration (total hours)</b>	200 hrs

<b>Programme(s) in which to be offered (not including exit awards)</b>	Core	Option
BSc (Hons) Computer Game Development	✓	<input type="checkbox"/>
BSc (Hons) Computing	✓	<input type="checkbox"/>
BSc (Hons) Applied Software Engineering	✓	<input type="checkbox"/>

<b>Pre-requisites</b>
None.

**Office use only**

Initial approval: 30/08/2018

Version no:2

With effect from: 01/09/2018

Date and details of revision: Jan 22: addition of BSc Applied Software Engineering

Version no:

## Module Aims

This module will introduce students to the key concepts of software design and development on mobile platforms, such as Android or iOS.

A modern, object-oriented computer programming language will be used in a hands-on laboratory setting, where students will create mobile apps.

This module aims to:

- Use logical thinking and algorithmic techniques to enable students to solve problems.
- Provide students with knowledge and skills to use notations and techniques to articulate problem solutions in the form of program designs.
- Give students a clear understanding of the software development process, including analysis, design, implementation and testing.
- Using modern object-oriented programming language, giving students a clear understanding of the syntax and structure of that language.

## 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	Apply appropriate methodologies, techniques and approaches for the development of application software for mobile devices, including data structures.	KS1	KS2
		KS3	
2	Construct small-scale client applications (e.g. 2D mini game) based on current technologies using appropriate modern languages and available tools.	KS1	KS2
		KS3	
3	Evaluate the technical and non-technical factors associated with the development of a range of mobile applications and systems.	KS3	KS4
		KS6	
4	Apply HCI Design principles and implement well-designed, fit for purpose, graphical user interfaces for different devices such as phones and tablet devices	KS1	KS2
		KS4	

**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:

The module is assessed through the development of apps, which implement current mobile technologies, together with supporting documentation in the form of a design-based report.

Marks for the work will be derived from the software deliverable; the application of appropriate theories, technologies and good practice; and documentation reflecting on the work done and the processes involved.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)	Duration (if exam)	Word count (or equivalent if appropriate)
1	1,2	Coursework	50%		
2	3, 4	Coursework	50%		

**Learning and Teaching Strategies:**

Lectures, supported by tutorials and practical sessions where students get the opportunity to put theory into practice.

The lectures will focus on presenting key topics and concepts, whereas the practical/tutorial based learning will provide exposure to hardware and software platforms, and the use of toolkits for designing and developing mobile applications.

These sessions will also support the study of underlying subject-based concepts and principles.

Formative, self-directed exercises will be used to support transfer of knowledge and understanding.

Students will have access to lecture materials, and ancillary resources, via the University's VLE platform.

**Syllabus outline:**

Mobile Application Development, including: An overview of device-specific frameworks, e.g. Android SDK and/or iOS Framework.

An Introduction to development frameworks; Human Computer Interaction issues, such as Interfaces on small displays with limited user attention.

Interaction through touch/swipe gestures, accelerometers, predictive texting, location services, orientation, user-input, user preferences and data storage.

The use of emulators for development, debugging and user-interface testing.

**Indicative Bibliography:****Essential reading**

There are no essential texts; the module will use relevant online reference material.

**Other indicative reading**

Android Developer Guides

<https://developer.android.com/guide/index.html>

Apple Developer Documentation

<https://developer.apple.com/documentation/>