MODULE DESCRIPTOR

Module Title

Mobile Application Design and Development

Reference	CM3131	Version	1
Created	February 2020	SCQF Level	SCQF 9
Approved	May 2020	SCQF Points	15
Amended		ECTS Points	7.5

Aims of Module

To develop the student's proficiency in software development on a mobile platform and to create applications that take advantage of direct manipulation of graphical interfaces.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Use the facilities of an Integrated Development Environment (IDE) to develop touch and motion controlled applications.
2	Employ an appropriate design methodology linked to an evolutionary prototyping approach to develop software.
3	Understand the different User Interface elements that can be used to construct the application interface on a mobile platform.
4	Test and document mobile applications.
5	Appraise security implications in the development of mobile applications.

Indicative Module Content

Overview of Swift, Cocoa Touch and developing/debugging tools within Mac OS X / iOS and other Apple-based environments. Use of existing classes/methods within the available frameworks. Creating custom classes and inheritance. Controls and target-action within the IDE and GUI. Design implications inherent in touch-based applications e.g. memory management, battery life, screen display, navigation controls. Creation of applications that exploit the features of the modern mobile devices e.g. accelerometer, audio, video, touch and multi-touch.

Module Delivery

Key concepts and ideas are introduced in lectures. In the lab sessions, the students will develop and implement practical aspects of mobile applications. The labs will involve the use of existing IDE and GUI tools for the development, deployment and testing of GUI applications.

Indicative Student Workload	Full Time	Part Time
Contact Hours	30	N/A
Non-Contact Hours	120	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
Actual Placement hours for professional, statutory or regulatory body		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4, 5
Description:	The coursework will be an extended software design and development exercise.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The calculation of the overall grade for this module is based on 100% weighting of C1. An overall minimum grade of D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
A	The student needs to achieve an A in C1.
B	The student needs to achieve a B in C1.
C	The student needs to achieve a C in C1.
D	The student needs to achieve a D in C1.
E	The student needs to obtain an E in C1.
F	The student needs to obtain an F in C1.
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	The student should have previous experience of using an object-oriented progamming language. This could be evidenced by successful completion of CM3127 Interactive 2D Scripting or equivalent.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

1	WANG, W. Beginning iPhone Development with Swift 5. Apress, 2019
2	WANG, W. Pro iPhone Development with Swift 5. Apress, 2019.
3	NOUVELLE, B. Simulations in Swift 5, Apress, 2019
4	KACZMAREK, S., LEES, B., and BENNETT, G. Swift 5 for Absolute Beginners, Apress, 2019