Module Descriptor

Title	Advanced Programming for Mobile Devices		
Session	2025/26	**Status**	Published
Code	COMP09078	**SCQF Level**	9
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Computing, Engineering and Physical Sciences**		
Module Co-ordinator	S Bagheri		

Summary of Module

Advanced Programming for Mobile Devices is degree-level module for the Minor in Mobile Development. It covers the development of object-oriented applications for mobile devices, with emphasis on Object Oriented Design and Develop for Android applications. The module also covers designing user-interfaces and backend infrastructure for a range of application types, and a variety of mobile design patterns and APIs for mobile development, including:

- Object oriented design
- Application design.
- design patterns applicable to Android (Java) and the Android SDK.

Students on this module should already have taken an Introduction to Programming for mobile devices and so there will be a focus on advanced programming structures and algorithms, and also to consider advanced design and implementation of mobile apps within the practical assessment.

This module will work to develop a number of the key 'I am UWS' Graduate Attributes to make those who complete this module:

Universal

- Critical Thinker
- Ethically-minded
- Research-minded

Work Ready

- Problem-Solver
- Effective Communicator
- Ambitious Successful

Successful

- Autonomous
- Resilient
- Driven

Module Delivery Method	**On-Campus**[1] ☒	**Hybrid**[2] ☐	**Online**[3] ☐	**Work -Based Learning**[4] ☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☒ Lanarkshire ☐ London ☒ Paisley	☐ Online / Distance Learning ☐ Other (specify)	

Terms for Module Delivery	Term 1	☐	Term 2	☒	Term 3	☐
Long-thin Delivery over more than one Term	Term 1 – Term 2	☐	Term 2 – Term 3	☐	Term 3 – Term 1	☐

Learning Outcomes	
L1	Develop applications for implementation using an IDE
L2	Use an appropriate testing environment to develop, test and de-bug a mobile application
L3	Apply advanced object oriented technique to the design of mobile apps
L4	Apply advanced programming structures to the implementation of mobile apps
L5	N/A

Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	**During completion of this module, there will be an opportunity to achieve core skills in:**
Knowledge and Understanding (K and U)	**SCQF 9** A broad knowledge of the following programming concepts and principles: User Interface design for apps; mobile application design.

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

Practice: Applied Knowledge and Understanding	**SCQF 9** Use of test environments for development and debugging of mobile applications, creating rich mobile user-interfaces and applying object oriented principles to mobile applications.
Generic Cognitive skills	**SCQF 9** Programming in mobile frameworks (e.g. Java/Android, .NET/WinMobile), data-design for small-scale applications, debugging on emulators and connected devices
Communication, ICT and Numeracy Skills	**SCQF 9** Use of online services (web services) for interaction with cloud and corporate data-stores and services.
Autonomy, Accountability and Working with Others	**SCQF 9** Working in a project team with clearly identified individual responsibilities to produce a coherent product.

Prerequisites	**Module Code** COMP08068	**Module Title** Programming for Mobile Devices
	Other	
Co-requisites	**Module Code**	**Module Title**

Learning and Teaching	
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours. tudents will attend weekly in-person lectures and supervised labs. The lectures will cover programming and mobile development concepts relevant to the labs, enhancing understanding of programming for mobile web and hybrid applications. Alongside scheduled classes, students are anticipated to dedicate considerable time to unsupervised lab work and self-directed study	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture / Core Content Delivery	12
Laboratory / Practical Demonstration / Workshop	36
Independent Study	152
Please select	
Please select	
Please select	
TOTAL	200

Indicative Resources

The following materials form essential underpinning for the module content and ultimately for the learning outcomes: Google online Developer resources Android Studio
(N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Attendance and Engagement Requirements
In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time. **For the purposes of this module, academic engagement equates to the following:** The School of Computing, Engineering and Physical Sciences considers attendance and engagement to mean a commitment to attending, and engaging in, timetabled sessions. You will scan your attendance via the scanners each time you are on-campus and you will login to the VLE several times per week. Where you are unable to attend a timetabled learning session due to illness or other circumstance, you should notify the Programme Leader that you cannot attend. Across the School an 80% attendance threshold is set. If you fall below this, you will be referred to the Student Success Team to see how we can best support your studies.

Equality and Diversity
The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code. Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. This module has lab-based teaching and as such you are advised to speak to the Module Co-ordinator to ensure that specialist assistive equipment, support provision and adjustment to assessment practice can be put in place, in accordance with the University's policies and regulations.
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	**Computing**
Overall Assessment Results	☐ **Pass / Fail** ☒ **Graded**
Module Eligible for Compensation	☐ **Yes** ☒ **No** **If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.**
School Assessment Board	Business & Applied Computing

Moderator	S Al-Ahmed
External Examiner	A Jindal
Accreditation Details	
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	2.15

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Class Test: ten class exercises, which accounts for 10% of the final mark, and a practical examination worth 40% of the final mark
Assessment 2
Portfolio of practical work (project): practical development project (50%)
Assessment 3
(N.B. (i) Assessment Outcomes Grids for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An indicative schedule listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.)

Component 1							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Class Test	☒	☒	☒	☒	☐	50	4

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		
Combined total for all components						100%	hours

Change Control

What	**When**	**Who**
Attendance and EDI Regulations	21/01/2025	L Cunningham
