University of the West of Scotland

Module Descriptor

Session: 2024/25

Title of Module: Programming for Mobile Devices			
Code: COMP08068	**SCQF Level: 8 (Scottish Credit and Qualifications Framework)**	**Credit Points: 20**	**ECTS: 10 (European Credit Transfer Scheme)**
School:	School of Computing, Engineering and Physical Sciences		
Module Co-ordinator:	Shahriar Al-Ahmed		

Summary of Module

The Programming for Mobile Devices module constitutes a vital component within the Web and Mobile Development program. Students enrolled in this module are expected to have completed a prerequisite programming course. This prior programming module serves as foundational knowledge, providing students with the necessary skills and understanding to explore into mobile application development.

In this module, students will embark on programming with Kotlin in Android Studio. Fundamental programming principles in Kotlin will be covered, and students will have the opportunity to apply and test their understanding through in-class assessments.

This module also covers development for mobile platforms using the following model:
- Android SDK

The core principles covered in this module are those which underpin a practical ability to write code for operating on a mobile platform — OOP for robust application design, library support for mobile web apps and native platforms, UI design for limited screen size, packaging applications, hosting, deployment and connectivity using online services.

The assessed project will also cover UI design, requirements analysis, design, implementation and testing. As part of the assessment the students will give a presentation on their project's design and implementation.

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

Work Ready
- Problem-Solver

- Effective Communicator
- Ambitious Successful

Successful
- Autonomous
- Resilient
- Driven

Module Delivery Method					
Face-To-Face	**Blended**	**Fully Online**	**HybridC**	**Hybrid 0**	**Work-Based Learning**
☒	☐	☐	☐	☐	☐
See Guidance Note for details.					

Campus(es) for Module Delivery						
The module will **normally** be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit) (tick as appropriate)						
Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
☒	☐	☐	☒	☐	☐	New College Lanarkshire

Term(s) for Module Delivery					
(Provided viable student numbers permit).					
Term 1	☐	Term 2	☒	Term 3	☐

Learning Outcomes: (maximum of 5 statements) **These should take cognisance of the SCQF level descriptors and be at the appropriate level for the module.** At the end of this module the student will be able to:	
L1	The student can design small applications for deployment on one or more mobile platforms.
L2	The student can implement using appropriate programming concepts and structure involved in developing a mobile app.
L3	The student can formulate a test plan and test developed apps.
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 Level **8** Understanding various mobile device types and selecting appropriate development tools for native app development; Applying UI design principles tailored for mobile devices; Addressing security needs and managing the distribution of mobile applications.	
Practice: Applied Knowledge and Understanding	SCQF Level **8** Utilising emulators for development and debugging purposes; crafting mobile user interfaces (UIs); incorporating graphics and engaging with online services.	
Generic Cognitive skills	SCQF Level **8** Principles of object-oriented programming; designing for minimal interaction.	
Communication, ICT and Numeracy Skills	SCQF Level **8** Click or tap here to enter text.	
Autonomy, Accountability and Working with others	SCQF Level **8** Collaboration in defining, designing, and constructing products.	
Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code: COMP07027	**Module Title:** Introduction to Programming
	Other:	
Co-requisites	**Module Code:**	**Module Title:**

*Indicates that module descriptor is not published.

Learning and Teaching	
Students 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** (Normally totalling 200 hours): (Note: Learning hours include both contact hours

	and hours spent on other learning activities)
Lecture/Core Content Delivery	10
Laboratory/Practical Demonstration/Workshop	30
Asynchronous Class Activity	8
Independent Study	142
Personal Development Plan	10
	200 Hours Total

****Indicative Resources: (eg. Core text, journals, internet access)**

The following materials are potential resources for delivering both lectures and labs:

Core text book/resources:

Google Developer – online resources

Development Resources:

Android Studio

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(**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:

It is advised for students to participate in the scheduled lectures and labs.

All assessments must be submitted by the students.

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. This module is suitable for any student. The assessment regime will be applied flexibly so that a student who can attain the practical outcomes of the module will not be disadvantaged. When a student discloses a disability, or if a tutor is concerned about a student, the tutor in consultation with the School Enabling Support coordinator will agree the appropriate adjustments to be made.
(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
Assessment Results (Pass/Fail)	Yes ☐No ☒
School Assessment Board	Business & Applied Computing
Moderator	Sajjad Bagheri
External Examiner	Anish Jindal
Accreditation Details	This module is accredited by BCS as part of a number of specified programmes.
Changes/Version Number	2.12

Assessment: (also refer to Assessment Outcomes Grids below)
100% Coursework, including individual class tests (50%), a practical development project (40%) and a presentation of work (10%)
Assessment 1 – Class Tests
Assessment 2 – Portfolio of practical work
Assessment 3 – Presentation
(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.)

Assessment Outcome Grids (See Guidance Note)

Component 1							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Class Tests	✓					40	1

Component 2							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Portfolio of practical work		✓	✓			50	0

Component 3							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Presentation	✓	✓	✓			10	2
					Combined Total for All Components	**100%**	**XX hours**