University of the West of Scotland

Module Descriptor

Session: 2024/25

Title of Module: Mobile Forensics			
Code: COMP11093	**SCQF Level: 11 (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:	Graham Parsonage		

Summary of Module
This module develops an advanced level of analysis of mobile devices. This module strengthens a student's knowledge and deepens understanding and reasoning by introducing them to alternative environments. The module develops a students' understanding of the attack surface and necessary skills to security test mobile applications and to identify vulnerabilities in the structure of the application, and the contemporary knowledge to secure against threats.   The module examines in-depth the techniques of forensic analysis of mobile devices. The ethical and professional issues/requirements of the practitioner are embedded throughout the syllabus.

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:
☐	☐	☐	☒	☐	☐	Add name

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	Demonstrate a critical understanding of the infrastructure and protocols used to support a mobile devices.
L2	Undertake advanced digital forensic examination/investigation and analysis of mobile devices through the use of appropriate tools whilst preserving evidential integrity.
L3	Develop a critical understanding of relevant literature and quality information sources.
L4	Consider ethical issues involved and critically evaluate professional requirements of the practitioner.
L5	Click or tap here to enter text.

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 **11** Critical knowledge & understanding of: the principal theories, concepts and principles; fundamental mobile device technologies; the internals of mobile devices and associated security models; the attack surface; testing and analysis techniques; the principles of security by design; mobile forensic acquisition &analysis.
Practice: Applied Knowledge and Understanding	SCQF Level **11** Use specialised and advanced skills, techniques and practices.
Generic Cognitive skills	SCQF Level **11** Critically identify, define, conceptualise and analyse complex problems; Offer professional insights, interpretations and solutions to problems and issues; Demonstrate some originality and creativity; Critically review and consolidate knowledge, skills, practices and thinking in the discipline; Make judgements where data/information is limited or comes from a range of sources.

Communication, ICT and Numeracy Skills	SCQF Level **11** Use a wide range of advanced and specialised skills in support of established practices; Present or convey, formally and informally, information about specialised topics to informed audiences; Interpret, use and evaluate a wide range of data.	
Autonomy, Accountability and Working with others	SCQF Level **11** Exercise autonomy and initiative in activities. Manage complex ethical and professional issues.	
Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code:	**Module Title:**
	Other:	
Co-requisites	**Module Code:**	**Module Title:**

*Indicates that module descriptor is not published.

Learning and Teaching
This module emphasises a "hands-on" active approach to learning, with learning taking place through a variety of complementary mechanisms, including lectures, seminars, with associated practical sessions, research into current developments and issues, and case studies.
Topics will be introduced in lectures and discussed through guided inquiry and problem-based learning activities. Theoretical material will be re-enforced and consolidated through the critical analysis and discussion of case studies in tutorials that are designed to explain and elaborate both on theoretical and laboratory content. Students are guided through real-world scenarios featuring structured inquiry based learning. Additionally, directed learning will reinforce essential theory and place understanding into context. An "industry lecture series" will provide examples of current practice, approaches and challenges as portrayed by practitioners across various industry sectors.
The subject discipline is continuously evolving and as a result students will be expected to keep up to date with developments through independent study. Students will be encouraged to adopt an independent learning style, acquiring and applying knowledge through their own enquiry, supported by a series of guided activities and exercises. Students will be encouraged to share the findings of their enquiry through seminar presentations and participation in on-line discussions with the student cohort. The material presented in this module is potentially damaging if used maliciously and the capabilities developed in this module have potential for harm. Academics will emphasise the professional expectations of students and of persons working in this domain as well as stressing the students' legal, ethical and moral responsibilities.

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	24
Laboratory/Practical Demonstration/Workshop	24
Independent Study	152
	200 Hours Total

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

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

Mahalik et al (2018) 3rd Ed. Practical Mobile Forensics: A hands-on guide to mastering mobile forensics for the iOS, Android, and the Windows Phone platforms. Packt Publishing

Reiber, L. (2016) Mobile Forensic Investigations: A Guide to Evidence Collection, Analysis, and Presentation. McGraw-Hill Education

Afonin, O. and Katalov, V. (2016) Mobile Forensics - Advanced Investigative Strategies. Packt Publishing

Please ensure the list is kept short and current. Essential resources should be included, broader resources should be kept for module handbooks / Aula VLE.

Resources should be listed in Right Harvard referencing style or agreed professional body deviation and in alphabetical order.

(**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:

Students are required to attend on campus sessions and complete the laboratory exercise.

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.

Please ensure any specific requirements are detailed in this section. Module Co-ordinators should consider the accessibility of their module for groups with protected characteristics..

(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	
Assessment Results (Pass/Fail)	Yes ☐No ☒
School Assessment Board	Business & Applied Computing
Moderator	Sean Sturley
External Examiner	N Coull
Accreditation Details	e.g. ACCA Click or tap here to enter text.
Changes/Version Number	1.1

Assessment: (also refer to Assessment Outcomes Grids below)
Assessment 1 – Closed Book Class Test and Report 50% - Two hour closed book class test to enable students to demonstrate a practical application of mobile device acquisition techniques and the reported findings
Assessment 2 – Practical Assignment and Report 50% Practical assignments enable students to demonstrate their analytic skills in the forensic examination of digital artefacts.
(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)		Weighting (%) of Assessment Element	Timetabled Contact Hours
	✓	✓	✓	✓		50	2

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

	Combined Total for All Components	100%	2 hours

Change Control:

What	When	Who
Further guidance on aggregate regulation and application when completing template	16/01/2020	H McLean
Updated contact hours	14/09/21	H McLean
Updated Student Attendance and Engagement Procedure	19/10/2023	C Winter
Updated UWS Equality, Diversity and Human Rights Code	19/10/2023	C Winter
Guidance Note 23-24 provided	12/12/23	D Taylor
General housekeeping to text across sections. .	12/12/23	D Taylor

Version Number: MD Template 1 (2023-24)