Module Definition Form (MDF)

Module code: MOD009085	**Version:** 2 **Date Amended:** 05/Sep/2025

1. Module Title
Advanced Digital Forensics

2a. Module Leader
Andrew Moore

2b. School
School of Computing and Information Sciences

2c. Faculty
Faculty of Science and Engineering

3a. Level
5

3b. Module Type
Standard (fine graded)

4a. Credits
30

4b. Study Hours
300

5. Restrictions

Type	Module Code	Module Name	Condition
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:			

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

This module builds upon the previous Principles of Digital Forensics module, in which you will learn about filesystems, evidence gathering and processing. This module combines file systems (NTFS, FAT), OS forensics (Windows) and Open-source intelligence (OSINT) to give a complete picture of a suspect's interactions. This information is presented in our Mock courtroom to give you first-hand experience in providing expert witness testimony under cross-examination.

6b. Outline Content

Students will be exposed to the following:

- Further In-depth forensics of the Windows filesystem (NTFS)
- Timeline analysis of suspects using metadata and other digital artefacts
- Open-source intelligence (OSINT), such as tracking suspect's whereabouts and their activities
- Timeline analysis across multiple devices
- Best practice in writing court documentation for a UK court
- Follow industry-standard practices such as NIST, SANS, CREST and ACPO.
- Presenting expert witness testimony in court

6c. Key Texts/Literature

The reading list to support this module is available at: https://readinglists.aru.ac.uk/

6d. Specialist Learning Resources

Forensic software provided, such as X-Ways, SIFT, open source CMD/PowerShell tools
Forensics lab with forensic hardware and Netlab

7. Learning Outcomes (threshold standards)		
No.	**Type**	**On successful completion of this module the student will be expected to be able to:**
1	Knowledge and Understanding	Understand the role of open source intelligence in modern investigations
2	Knowledge and Understanding	Evaluate industry standards to complete a forensically sound investigation with documentation
3	Knowledge and Understanding	Research how different types of unstructured data can be analysed to create a timeline analysis
4	Intellectual, practical, affective and transferrable skills	To perform analysis of complex unstructured data to find patterns and trends to further an investigation
5	Intellectual, practical, affective and transferrable skills	Demonstrate competent usage of digital forensics tools to complete court documentation
6	Intellectual, practical, affective and transferrable skills	Demonstrate competent expert witness testimony to peers under cross-examination

8a. Module Occurrence to which this MDF Refers				
Year	**Occurrence**	**Period**	**Location**	**Mode of Delivery**
2025/6	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence			
Learning Activities	**Hours**	**Learning Outcomes**	**Details of Duration, frequency and other comments**
Lectures	24	1-6	Lecture 2 hr x 12 weeks
Other teacher managed learning	24	1-6	Laboratory 2 hr x 12 weeks
Student managed learning	252	1-6	3hrs per week preparing for and reflecting on laboratories, 3hrs per week testing forensic theories learned in labs against upcoming court case. 180 hours preparing court documentation and expert witness testimony
TOTAL:	300		

9. Assessment for the above Module Occurrence					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
010	Coursework	1-3	50 (%)	Fine Grade	30 (%)
Report created for court from forensic evidence. Word count equivalent to 3000 words.					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
011	Practical	4-6	50 (%)	Fine Grade	30 (%)
Presentation of expert witness testimony under cross-examination 30 minutes. Equivalent to 3000 words.					

In order to pass this module, students are required to achieve an overall mark of 40% (for modules at levels 3, 4, 5 and 6) or 50% (for modules at level 7*).

In addition, students are required to:
(a) achieve the qualifying mark for each element of fine graded assessment as specified above
(b) pass any pass/fail elements

[* the pass mark of 50% applies for all module occurrences from the academic year 2024/25 – see Section 3a of this MDF to check the level of the module and Section 8a of this MDF to check the academic year]