WM3E6-15 Advanced Forensics & Investigations

27/28

Department
WMG
Level
Undergraduate Level 3
Module leader
Harjinder Lallie
Credit value
15
Module duration
30 weeks
Assessment
100% coursework
Study location
University of Warwick main campus, Coventry

Description

Introductory description

Digital forensics unfold the digital trail of evidence and try to present potential explanations of how a related incident occurred. Digital forensics can involve criminal or civil investigations, corporate or intrusion investigations and even intelligence gathering. The investigations can involve all different sorts of digital devices, such as computers, networks, mobile devices, memory, and multimedia.
This module advances on previously gained skills in digital forensics and explores different themes.
One part of the module places a strong emphasis on engagement with applied research advances on contemporary topics in the field and current professional practises. The other part of the module, strongly focuses on the technical analysis and techniques involved when investigating different devices and technologies.

Module aims

The aims of the module are to provide the students with the advanced skills required:

1. to apply contemporary research in digital forensics,

2. to identify, and analyse digital evidence from a range of devices, while employing different technologies and techniques.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

- Cybercrimes and cybercrime analysis
- Profiling of cyber criminal
- Mobile forensics
- Internet forensics
- Cloud investigations
- Anti-forensic techniques
- Handling secure storage
- Advanced file system analysis
- Digital forensic integration to new technologies, e.g. Internet of Things
- AI in digital forensic investigations

This is an indicative module outline and actual sessions held may differ.

Learning outcomes

By the end of the module, students should be able to:

- Critically evaluate research in digital forensic concepts and investigations.
- Formulate and sustain arguments on a range of current and advanced topics relevant to digital forensics.
- Systematically identify and analyse different types of digital forensic artefacts originating from multiple sources.
- Communicate the results of research and technical digital forensics activities outlining findings.

Indicative reading list

Reading lists can be found in Talis

Research element

The module requires students to study current research advances in the field and conduct research relevant to current concepts in a technical area.

Interdisciplinary

There is some interdisciplinary element relevant to the nature of the digital forensics and the involvement of other disciplines, such as psychology and criminology.

Subject specific skills

- tools, techniques and processes;
- technical ability
- forensic analysis
- case management

Transferable skills

- critical and analytical thinking
- problem solving
- communication
- technical literacy
- attention to detail

Study

Study time

Type	Required
Lectures	18 sessions of 1 hour (12%)
Supervised practical classes	18 sessions of 1 hour (12%)
Private study	54 hours (36%)
Assessment	60 hours (40%)
Total	150 hours

Private study description

Independent activities between workshops, following up on activities initiated in previous activities or preparing for upcoming activities.

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Assessment group A

	Weighting	Study time	Eligible for self-certification
Assessment component			
Short-answer and multiple choice test	30%	20 hours	No
A computer-based test that aims to assess specific concepts explored in the module.			
Reassessment component			
Reflection on the material covered at the module			No
A list of topics that were covered in class will be provided to be used for a personal reflection.			
Assessment component			
A research article that explores a contemporary topic in digital forensics	70%	40 hours	Yes (extension)
The student is required to select a topic from a specified list of current research areas in digital forensics and produce a research article.			
Reassessment component			
A research article that explores a contemporary topic in digital forensics			No
The student is required to select a topic from a specified list of current research areas in digital forensics and produce a research article.			

Feedback on assessment

Written feedback on the assignment
Verbal feedback during seminars
Clinic will be offered for feedback on the test

Availability

Courses

This module is Optional for:

- UWMA-H651 Undergraduate Cyber Security
    - Year 3 of H651 Cyber Security
    - Year 3 of H651 Cyber Security
    - Year 3 of H651 Cyber Security