COURSE DETAILS
Course Code: F20FO
Full Course Title: Digital Forensics
SCQF Level: 10
SCAF Credits: 15
Available as Elective: No

DELIVERY LEVEL
Undergraduate: Yes  Postgraduate Taught: No  Postgraduate Research: No
Additional Information:

COURSE AIMS
- Provide the student with in-depth understanding of digital forensics concepts and methodologies
- Impart a deep understanding of common attack scenarios to students
- Improve students’ analysis skills and allow them to identify incidents artefacts in a systematic way
- Give practical experience of finding clues and discovering attack scenarios in common operating systems and applications

LEARNING OUTCOMES – SUBJECT MASTERY
At the end of this course, the students will be able to:

- Understand the technical and legal aspects of the digital forensics process
- Identify and explain the role of different types of digital artefacts
- Review the security of Windows and Linux systems
- Assess the security of an IT infrastructure
- Identify suspicious activities and combine them into attack scenarios
- Understand appropriateness and effectiveness of different techniques and research methodologies for digital forensics processes

LEARNING OUTCOMES – PERSONAL ABILITIES
At the end of this course, the students will:
F20FO Digital Forensics

- Develop a set of ethical and legal best practices needed for a digital forensics career
- Be able to critically appraise the security of an IT infrastructure

- Practice in ways that demonstrate a clear awareness of own and others' roles and responsibilities

- Use a range of digital forensics software to support and enhance their analyses
- Make formal presentations about digital forensics topics to informed audiences

SYLLABUS

- Legal aspects: investigation limitations (territorial and jurisdictional)
- Search and seizure: consent, warrant, evidence seizure
- Analysis: things to consider, analysis Process, evidence guidelines, order of evidence importance
- Forensic toolkits: hardware features, software features, common software tools
- Windows OS artefacts: event log, registry, prefetch, volume shadow copies, shell bags, jumplists, boot, services
- Linux OS artefacts: "etc" folder, logs, home folder, nautilus, accounts and login history, grub, services
- Malware persistence mechanisms: auto-startup, cron jobs
- Malware analysis
- Reverse Engineering
- Storage Media: types overview, file Systems overview
- Common applications' artefacts: web browsers, chat clients, servers (Apache, mysql), cross-platform applications

COURSE RELATIONSHIPS

N/A

LOCATION AND ASSESSMENT METHODS

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