

Liverpool John Moores University

Title: Ethical Hacking
Status: Definitive
Code: **6217COMP** (128016)
Version Start Date: 01-08-2021

Owning School/Faculty: Computer Science and Mathematics
Teaching School/Faculty: Computer Science and Mathematics

Team	Leader
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Academic Level: FHEQ6 **Credit Value:** 20 **Total Delivered Hours:** 44
Total Learning Hours: 200 **Private Study:** 156

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	22
Practical	22

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Review of ethical hacking tools	40	
Report	AS2	Simulated network attack and defence scenario	60	

Aims

*To gain a significant understanding of various security vulnerabilities and cyber threats to computer systems/applications as well as the importance of cyber security.
To assess critically a variety of ethical hacking tools and techniques for the protection and evaluation of computer systems and applications.
To promote the use of appropriate security techniques to solve cyber security*

problems.

Learning Outcomes

After completing the module the student should be able to:

- 1 Identify ethical, legal, and social issues around the use of hacking tools
- 2 Critically review existing research-based defence solutions
- 3 Plan and deploy appropriate solutions in relation to practical network security problems
- 4 Critically analyse ethical hacking methods for the evaluation of network security

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Review ethical hacking tools	1	2
Simulated attack and defence	3	4

Outline Syllabus

Ethical hacking: fundamentals and concepts

Open Source Intelligence

Security vulnerabilities and detection

Attack foot printing

Attack scanning techniques

System hacking methods

Network and device hacking techniques

Web application vulnerabilities and attacks

Exploit development and defence

Ethical hacking reporting

Responding and security solutions

Ethical, Legal and Social: UK, EU and International Cybercrimes laws and regulations.

Learning Activities

Include attending lectures and practical lab sessions, as well as reading online resources.

Notes

The growth of the Internet has spawned a great demand for secure computer systems. Ethical hacking provides the concept for finding vulnerabilities before real attackers do in order for these vulnerabilities to be fixed and associated risks mitigated. It also helps to test the cyber security defence of computer systems. This

module examines various ethical hacking concepts, tools, techniques and provides solution to fix identified threats.