

Summary Information

Module Code	5716YCOM
Formal Module Title	System Penetration Testing
Owning School	Computer Science and Mathematics
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 5
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

Partner Teaching Institution

Institution Name
YPC International College (Kolej Antarabangsa YPC)

Learning Methods

Learning Method Type	Hours
Lecture	22
Practical	22

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-PAR	PAR	January	12 Weeks

Aims and Outcomes

Aims	To familiarize students with common penetration testing techniques, security issues and software vulnerabilities as well as the methods, tools and techniques that can be used during penetration testing to detect such vulnerabilities. To provide students with an understanding of techniques that should be applied through a penetration testing methodology in order to test for system insecurity.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Analyse software for vulnerabilities.
MLO2	2	Apply a range of techniques to detect software insecurity.
MLO3	3	Demonstrate awareness of the technical issues and complexity surrounding software security assessment.
MLO4	4	Investigate software vulnerabilities through performing penetration tests

Module Content

Outline Syllabus	Software vulnerability analysis Low level programming language analysis in a security context Analysis and exploitation of data structures Practical penetration and software testing Operating system security Use of exploitation tools Bug and exploitation hunting
Module Overview	
Additional Information	Students will produce a report discussing aspects of penetration testing and vulnerability analysis. They will consider the various stages of a penetration testing lifecycle and the necessary technologies available in performing software tests. This module follows on from skills developed in the Operating System module and prepares students for a boarder discussion of ethical hacking topics covered in the final year.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Report	Research Report	50	0	MLO1, MLO3
Technology	Technical Analysis Task	50	0	MLO2, MLO4

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Glyn Hughes	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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