INFO 3002 ETHICAL HACKING PRINCIPLES AND PRACTICE

Credit Points 10

Legacy Code 301124

Coordinator Weisheng Si (https://directory.westernsydney.edu.au/search/name/Weisheng Si/)

Description This subject teaches students ethical hacking principles and skills with the ultimate goal of defence. It covers practical skills in different stages of ethical hacking, including reconnaissance on public information, port and vulnerability scanning, exploitation of vulnerabilities, post exploitation, and writing a comprehensive report to document detected vulnerabilities and proposed solutions. Students will not only practise with major tools in ethical hacking, but also learn the principles of how these tools work and hence how to defend against them. Students completing this subject can pursue careers such as ethical hackers, security architects or security analysts.

School Computer, Data & Math Sciences

Discipline Security Science

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 3 subject

Pre-requisite(s) COMP 2004 OR
COMP 2005 AND
COMP 2014 OR
COMP 2020 OR
COMP 2021

Assumed Knowledge

Students should have a solid understanding of computer networking (especially with the TCP/IP protocol suite), possess basic programming skills in developing computer applications and web applications, and command basic knowledge and skills in databases and operating systems.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Identify lawful and unlawful behaviour in conducting ethical hacking.
2. Assess the level of information leak with reconnaissance knowledge and tools.
3. Assess the severity of vulnerability with port and vulnerability scanning knowledge and tools.
4. Assess the capability of defence with exploitation and post exploitation knowledge and tools.
5. Assess the security of web applications with web penetration testing knowledge and tools.
6. Detect and defend against social engineering techniques.
7. Develop a comprehensive ethical hacking report.

Subject Content

1. Introduction to ethical hacking: concepts, legal requirements, stages, and lab environment
2. Reconnaissance based on public information, and its major tools.
3. Port scanning, and its major tools.
4. Vulnerability scanning, and its major tools
5. Exploitation of vulnerabilities, and its major tools
6. Post exploitation, and its major tools
7. Social Engineering, and its major tools.
8. Web penetration testing, and its major tools.

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Quiz	20 minutes (each)	20	N	Individual	N
Practical	10 labs - 2 hours (each)	20	N	Individual	N
Applied Project	20 - 30 hours	20	N	Individual	Y
Final Exam	1 hour	40	N	Individual	Y

WSU Online Trimester 3

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Quiz	11 quizzes each containing 10 multiple-choice questions	15	N	Individual	Y
Practical	10 labs each requiring two hours of work	25	N	Individual	Y
Report	6-10 pages	20	N	Individual	Y
Final Exam	1 hour	40	N	Individual	Y

Teaching Periods

WSU Online TRI-1 (2025)
Wsu Online
Online
Subject Contact Weisheng Si (https://directory.westernsydney.edu.au/search/name/Weisheng Si/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFO3002_25-OT1_OW_2#subjects)

Autumn (2025)
Penrith (Kingswood)
On-site
Subject Contact Weisheng Si (https://directory.westernsydney.edu.au/search/name/Weisheng Si/)

View timetable (https://classregistration.westernsydney.edu.au/odd/
timetable/?subject_code=INFO3002_25-AUT_KW_1#subjects)

Parramatta - Victoria Rd
On-site
Subject Contact Weisheng Si (https://directory.westernsydney.edu.au/
search/name/Weisheng Si/)

View timetable (https://classregistration.westernsydney.edu.au/odd/
timetable/?subject_code=INFO3002_25-AUT_PS_1#subjects)

Sydney City Campus - Term 1 (2025)
Sydney City
On-site
Subject Contact Antoinette Cevenini (https://
directory.westernsydney.edu.au/search/name/Antoinette Cevenini/)

View timetable (https://classregistration.westernsydney.edu.au/odd/
timetable/?subject_code=INFO3002_25-SC1_SC_1#subjects)

Sydney City Campus - Term 2 (2025)
Sydney City
On-site
Subject Contact Antoinette Cevenini (https://
directory.westernsydney.edu.au/search/name/Antoinette Cevenini/)

View timetable (https://classregistration.westernsydney.edu.au/odd/
timetable/?subject_code=INFO3002_25-SC2_SC_1#subjects)