COMP 2027 CYBER SECURITY

Credit Points 10

Coordinator Tomas Trescak (https://directory.westernsydney.edu.au/search/name/Tomas Trescak/)

Description This subject focuses on, but is not limited to, the implementation and management of security and privacy policies of organisations within the standards and legal framework that is also applicable to the Australian standards. Knowledge gained in this subject will benefit students aspiring to careers in the Cyber Security industry.

School Computer, Data & Math Sciences

Discipline Computer 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 2 subject

Equivalent Subjects INFO 3001 - Computer Security

Assumed Knowledge

Students are expected to have general understanding on computer systems; computer fundamentals, databases, and web technologies.

Learning Outcomes

After successful completion of this subject, students will be able to:

1. Explain the cyber security theories that are used in implementing a secure network/system in organisations
2. Identify access operations and ownership issues using modern authentication, authorisation and access control mechanisms
3. Explain various cryptographic techniques and algorithms in accomplishing security demonstrating knowledge of key concepts in symmetric and assymetric encryption and cryptography
4. Examine security issues within various networked systems, operating systems and application software and the general causes that lead to system security failures
5. Analyse the security issues specific to databases, and protection of sensitive information and statistical systems within an organisation
6. Identify security threats and risks associated with web and related technologies
7. Use corrective and preventative measures against these threats and risks in organisations
8. Apply the relevant standards and the legal framework related to security and privacy and to security and privacy policies in organisations

Subject Content

1. Complexities of working in the Cyber Security Industry
2. Legal and ethical issues of working in cyber environment
3. Threats, vulnerabilities, and exploits
4. Network architectures and recognise their potential vulnerabilities
5. Reconnaissance methodologies to discover weaknesses in computing environment
6. The differences between vulnerability management policies and vulnerability management maturity models
7. Concepts of exploiting vulnerabilities to hack into a system using common penetration testing tools and frameworks
8. The principles of symmetric and asymmetric cryptography, and public key infrastructure
9. Data classification levels and email marking standards associated with the dissemination of sensitive and classified information
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11. Threats in social networks via Open Source Intelligence (OSINT) Methodologies and demonstrate the capturing of Personally Identifiable Information (PII) using OSINT
12. Usage of website security assessment tools to identify weaknesses and potential web attack vectors
13. The types of forensic investigations from a cybersecurity perspective, differentiating between software and hardware digital forensic tools
14. The resources required to navigate the cybersecurity landscape as a potential cybersecurity professional

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
Quizzes	45 minutes (Weekly from Week 2)	40	N	Individual
Quiz	60 minutes	20	N	Individual
Final Exam	2 hours	40	N	Individual

Prescribed Texts

Pfleeger, C. P., Pfleeger, S. L., & Margulies, J. (2015). Security in computing (5th ed.). Prentice Hall.

Teaching Periods

Autumn (2024)

Campbelltown

On-site

Subject Contact Tomas Trescak (https://directory.westernsydney.edu.au/search/name/Tomas Trescak/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP2027_24-AUT_CA_1#subjects)

Penrith (Kingswood)

On-site

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View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP2027_24-AUT_KW_1#subjects)

Melbourne

On-site

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View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP2027_24-AUT_MB_1#subjects)

Parramatta - Victoria Rd

On-site

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View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP2027_24-AUT_PS_1#subjects)

Spring (2024)

Parramatta - Victoria Rd

On-site

Subject Contact Tomas Trescak (https://directory.westernsydney.edu.au/search/name/Tomas Trescak/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP2027_24-SPR_PS_1#subjects)

Term 3 (2024)

Wsu Online

Online

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Sydney City Campus - Term 3 (2024)

Sydney City

On-site

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View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP2027_24-SC3_SC_1#subjects)