

# COMP 2027 CYBER SECURITY

**Credit Points** 10

**Coordinator** Tomas Trescak ([https://directory.westernsydney.edu.au/search/name/Tomas Trescak/](https://directory.westernsydney.edu.au/search/name/Tomas%20Trescak/))

**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/](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 asymmetric 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	Mandatory
Quiz	45 minutes (Weekly from Week 2)	40	N	Individual	N
Quiz	60 minutes	20	N	Individual	N
Final Exam	2 hours	40	N	Individual	Y

Teaching Periods

## Autumn (2025)

### Campbelltown

**On-site**

**Subject Contact** Tomas Trescak ([https://directory.westernsydney.edu.au/search/name/Tomas Trescak/](https://directory.westernsydney.edu.au/search/name/Tomas%20Trescak/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=COMP2027\\_25-AUT\\_CA\\_1#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP2027_25-AUT_CA_1#subjects))

### Penrith (Kingswood)

**On-site**

**Subject Contact** Tomas Trescak ([https://directory.westernsydney.edu.au/search/name/Tomas Trescak/](https://directory.westernsydney.edu.au/search/name/Tomas%20Trescak/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=COMP2027\\_25-AUT\\_KW\\_1#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP2027_25-AUT_KW_1#subjects))

### Parramatta - Victoria Rd

**On-site**

**Subject Contact** Tomas Trescak ([https://directory.westernsydney.edu.au/search/name/Tomas Trescak/](https://directory.westernsydney.edu.au/search/name/Tomas%20Trescak/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=COMP2027\\_25-AUT\\_PS\\_1#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP2027_25-AUT_PS_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/](https://directory.westernsydney.edu.au/search/name/Antoinette%20Cevenini/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=COMP2027\\_25-SC2\\_SC\\_1#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP2027_25-SC2_SC_1#subjects))

## Spring (2025)

### Parramatta - Victoria Rd

#### On-site

**Subject Contact** Tomas Trescak ([https://directory.westernsydney.edu.au/search/name/Tomas Trescak/](https://directory.westernsydney.edu.au/search/name/Tomas%20Trescak/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=COMP2027\\_25-SPR\\_PS\\_1#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP2027_25-SPR_PS_1#subjects))

## Term 3 (2025)

### Wsu Online

#### Online

**Subject Contact** Tomas Trescak ([https://directory.westernsydney.edu.au/search/name/Tomas Trescak/](https://directory.westernsydney.edu.au/search/name/Tomas%20Trescak/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=COMP2027\\_25-T3\\_OW\\_2#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP2027_25-T3_OW_2#subjects))

## Sydney City Campus - Term 3 (2025)

### Sydney City

#### On-site

**Subject Contact** Antoinette Cevenini ([https://directory.westernsydney.edu.au/search/name/Antoinette Cevenini/](https://directory.westernsydney.edu.au/search/name/Antoinette%20Cevenini/))

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