

# Cyber Security – Proposed academic structure

## Specialisations and Hons

### for 2026 amendments and establishments

#### **Background**

Bachelor of Cyber Security (Sydney) and Bachelor of Cyber Security (Canberra City) are intended to commence in 2025 (subject to final approvals). These amendments expand the pool of permissible cyber electives to include more options for students from the pool of existing UNSW cyber security courses, introduce optional minors, and introduce a corresponding 4 year honours degree. These were included in the CSE cyber security ATP but because of the tight deadlines for approval for 2025 commencement only a simplified/basic version of the degree was put forward for approval. This proposal now includes these elements and is envisioned for commencement 2026.

#### **Overview of Academic Structure**

These amendments do not alter the core of the Bachelor of Cyber Security (Sydney) or its alignment with the Canberra City degree.

The 4-year honours degree is the existing 3-year Bachelor degree with an additional requirement of an additional 48 UOC of thesis and advanced courses, and should include associated pathways for students to move between the 3 and 4 year degrees.

Note that the inclusion of out-of-Faculty courses in the Cyber electives means that for accreditation purposes we need to divide the electives into two lists, one being restricted to advanced COMP and MATHS courses “Discipline Depth” courses, and one being the full set of cyber relevant electives “Discipline General”, and specify that all students take at least a minimum number of courses from the discipline depth list.

The specialisations are 24 UOC optional minors within the existing Bachelor of Cyber Security (Sydney) degree.

# 3777 Bachelor of Cyber Security (Sydney) – Amendment

The proposed new structure for the 3777 program is as follows. A program amendment proposal needs to be submitted in ECLIPS, along with the establishment proposals of the four minors.

(For your convenience, here's the link to the establishment proposal: [3777 Cyber Security \(Sydney\) - Program Information - CourseLoop \(unsw.edu.au\)](https://www.unsw.edu.au/course-loop/3777-cyber-security-sydney-program-information))

## Program Structure

144 UOC, 3 years full-time

Students must complete 144 UOC – apportioned as follows:

1. 66 UOC Cyber Security Core
2. 24 UOC Discipline Depth Electives
3. 6 UOC Discipline General Electives
4. 36 UOC Free Electives (24 UOC of which may be used for an optional minor)
5. 12 UOC General Education

### 1. Cyber Security Core

Students must take 66 UOC from the agreed Cyber Security Core courses

### 2. Discipline Depth Electives (24 UOC)

Students must take an additional 24 UOC from the Cyber Security Depth Elective list (below).

### 3. Discipline General Electives (6 UOC)

Students must take an additional 6 UOC from the Cyber Security General Elective list (below)

### 4. Free Electives (36 UOC)

Students must take 36 UOC Free Electives. These can include COMP courses and/or non-COMP courses.

Students may choose to take one of the following optional minors (24 UOC)

- Offensive Security
- Information Security
- Human Factors
- Artificial Intelligence and Data

### 5. 12 UOC of General Education

Students must complete 12 UOC of General Education Courses. COMP courses do not meet the requirements of General Education for this program.

## Cyber Security Core Courses

Students must complete 66 UOC of the following courses

1. COMP1337 Foundations of Cyber Security
2. COMP1511 Programming Fundamentals
3. COMP1521 Computer Systems Fundamentals
4. COMP1939 Cyber Security Workshop 1 - Penetration Testing
5. COMP2218 Human Centric Security
6. COMP2521 Data Structures and Algorithms
7. COMP2949 Cyber Security Workshop 2 - Defence
8. COMP4920 Professional Issues and Ethics in Information Technology
9. COMP3959 Cyber Security Workshop 3 - Capstone
10. MATH1081 Discrete Mathematics
11. And one of the following
  - o COMP3121 Algorithm Design and Analysis
  - o COMP3443 Web Application Security and Testing
  - o COMP3445 Digital Forensics
  - o COMP3821 Extended Algorithm Design and Analysis
  - o COMP6843 Extended Web Application Security and Testing

- COMP6845 Extended Digital Forensics and Incident Response
- PSYC1001 Psychology 1A
- PSYC1011 Psychology 1B

### **Discipline Depth Electives**

1. COMP3444 Privacy Engineering
2. COMP3446 Cloud Security
3. COMP3453 Applied Cryptography
4. COMP6131 Software Security Analysis
5. COMP6447 System and Software Security Assessment
6. COMP6448 Security Engineering Masterclass
7. COMP9301 Cyber Security Project
8. COMP9302 Cyber Security Project B
9. MATH3411 Information, Codes and Ciphers
10. LAWS8398 Introduction to Law and Policy for Cyber Security
11. COMP3121 Algorithm Design and Analysis
12. COMP3821 Extended Algorithm Design and Analysis
13. COMP3443 Web Application Security and Testing
14. COMP6843 Extended Web Application Security and Testing
15. COMP3445 Digital Forensics
16. COMP6845 Extended Digital Forensics and Incident Response
17. [COMP6420 Hardware Security](#)
18. [COMP9447 Security Engineering Workshop](#)
19. [COMP4337 Securing Fixed and Wireless Networks](#)
20. [COMP3891 Extended Operating Systems](#)
21. [COMP9242 Advanced Operating Systems](#)
22. [COMP3153 Algorithmic Verification](#)
23. [COMP6733 IoT Design Studio](#)
24. [COMP6451 Cryptocurrency and Distributed Ledger Technologies](#)

### **Discipline General Electives**

Students may take a Discipline Depth Electives to meet the Discipline General Electives requirement.

- any COMP3\*\*\* course or higher
- PSYC1001 Psychology 1A
- PSYC1011 Psychology 1B
- [SOSS1000 Policy and Society](#)
- [DATA1001 Introduction to Data Science and Decisions](#)

## Optional Minors

### Offensive Security – New

- Complete 24 UOC of the following courses:
  1. COMP6843 Extended Web Application Security and Testing
  2. COMP6447 System and Software Security Assessment
  3. COMP6420 Hardware Security
  4. COMP6845 Extended Digital Forensics and Incident Response
  5. COMP9242 Advanced Operating Systems
  6. COMP9447 Security Engineering Workshop

### Information Security– New

- Complete 24 UOC of the following courses:
  1. COMP3453 Applied Cryptography
  2. COMP3444 Privacy Engineering
  3. COMP6131 Software Security Analysis
  4. MATH3411 Information, Codes and Ciphers
  5. COMP3153 Algorithmic Verification

### Human Factors– New

- Complete 24 UOC of the following courses:
  1. PSYC1001 Psychology 1A
  2. PSYC1011 Psychology 1B
  3. SOSS1000 Policy and Society
  4. LAWS8398 Introduction to Law and Policy for Cyber Security
  5. COMP3511 Human Computer Interaction

### Artificial Intelligence and Data– New

- Complete 24 UOC of the following courses:
  1. COMP3411 Artificial Intelligence
  2. COMP9417 Machine Learning and Data Mining
  3. DATA1001 Introduction to Data Science and Decisions
  4. COMP4418 Knowledge Representation and Reasoning
  5. COMP4337 Securing Fixed and Wireless Networks

# 4XXX Bachelor of Cyber Security (Honours) (Sydney) – New

## Program Structure

192 UOC, 4 years full-time

Students must complete 192 UOC – apportioned as follows:

1. 66 UOC Cyber Security Core
2. 24 UOC Cyber Security Depth Electives
3. 6 UOC Cyber Security General Electives
4. 36 UOC Free Electives
5. 12 UOC General Education
6. 24 UOC Advanced Cyber Security Electives
7. 6 UOC Advanced General Electives
8. 18 UOC Thesis Courses

*Identical to 3777 Bachelor of Cyber Security (144 UOC)*

### 1. Cyber Security Core

Students must take 66 UOC from the agreed Cyber Security Core courses

### 2. Discipline Depth Electives (24 UOC)

Students must take an additional 24 UOC from the Cyber Security Depth Elective list.

### 3. Discipline General Electives (36 UOC)

Students must take an additional 6 UOC from the Cyber Security General Elective list.

### 4. Free Electives (36 UOC)

Students must take an additional 36 UOC Free Electives. These can include COMP courses and/or non-COMP courses.

### 5. General Education (12 UOC)

Students must complete an additional 12 UOC of General Education Courses. COMP courses do not meet the requirements of General Education for this program.

### 6. Advanced Cyber Security Electives (24 UOC)

Students must take an additional 24 UOC of Advanced Cyber Security Electives from the Advanced Cyber Security Elective list (below)

### 7. Advanced General Electives (6 UOC)

Students must take an additional 6 UOC of Advanced General Electives from the Advanced General Elective list (below)

### 8. Thesis Courses (18 UOC)

Students must complete 18 UOC of the following courses:

1. COMP4XXX Cyber Security Thesis A
2. COMP4XXX Cyber Security Thesis B
3. COMP4XXX Cyber Security Thesis C

## **Advanced Cyber Security Electives**

1. COMP6447 System and Software Security Assessment
2. COMP6448 Security Engineering Masterclass
3. COMP9301 Cyber Security Project
4. COMP9302 Cyber Security Project B
5. COMP6843 Extended Web Application Security and Testing
6. COMP6845 Extended Digital Forensics and Incident Response
7. COMP9447 Security Engineering Workshop
8. COMP9242 Advanced Operating Systems
9. COMP4121 Advanced Algorithms
10. COMP6733 IoT Design Studio
11. COMP4161 Advanced Topics in Software Verification
12. COMP3153 Algorithmic Verification
13. COMP9417 Machine Learning and Data Mining
14. COMP9242 Advanced Operating Systems
15. COMP6451 Cryptocurrency and Distributed Ledger Technologies
16. COMP6452 Software Architecture for Blockchain Applications

## **Advanced General Elective list**

Advanced Breadth Electives are:

- All Advanced Cyber Security Electives, and
- All COMP3000+ courses, and
- All non-COMP courses at 2000+