

MCSA22 – Master of Cybersecurity (Advanced)

1. About the Master of Cybersecurity (Advanced)

The Master of Cybersecurity (Advanced) addresses industry demand for cybersecurity graduates with a broad range of advanced knowledge and skills that encompass software and network security, human-centric cybersecurity solutions for digital infrastructure and enterprise computing systems, and ethical use of AI to support public safety in industry 4.0 digital societies.

It offers professionals the opportunity to upskill in order to improve career prospects with contemporary cybersecurity topics and provides a highly-structured course plan to meet professional accreditation requirements.

In addition to the core cybersecurity subjects, learners cover research methodologies in preparation for project work in the last two trimesters leading to well-rounded individuals who can not only self-direct a project, but also manage teams and project-outcomes at scale. Quantitative and qualitative research practices and mixed approaches are covered as well as ethical issues stemming from the use and management of cybersecurity projects.

The final capstone project is an opportunity for students to apply a culmination of knowledge and skills to achieve a particular project outcome, where possible working with industry clients and to a set project brief. There is also an opportunity to gain work integrated learning experiences.

The learning outcomes are classifiable in groups according to their focus: ethics and professional skills; research abilities; cognitive skills; interpersonal skills and communication skills are integrated throughout.

Graduates with a Master of Cybersecurity (Advanced) qualification will be differentiated by means of research that contributes to the body of knowledge in their field whilst rationalising their work in a coherent and sustained manner as part of their project work. As well as solving complex and highly technical problems in cybersecurity fields for their final capstone subject (ITA602 Advanced Information Technology Work Integrated Learning) where collaboration skills and the ability to work in commercial environments are highly attuned, students also master and synthesise technical and creative skills from core subjects and the range of elective subject chosen throughout the course.

Graduate employment opportunities

The Master of Cybersecurity (Advanced) provides graduates with the capability to seek professional level employment in either generalist or research & Development (R&D) leadership roles found within the IT and cybersecurity industries.

Examples include:

- Chief Security Officer
- Cyber Security Executives
- Information Security Director
- Cybersecurity Lead
- Director Information Security
- Security Program Leader
- Threat Investigations Lead
- Head of Cybersecurity
- Head of Digital Transformation Security
- Head of Cybersecurity Defence

Course Overview

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| Course Title | Master of Cybersecurity (Advanced) (MCSA22) | | |
| Study Options – Domestic Australian students | Face to Face delivery Online delivery Full-time and part-time options available. | Study Options – International students | International students on a student visa must not enroll into any more than a third or 33% of online subjects over their course and must study at least one subject that is face to face in each trimester. International students on a student visa are required to study full time, i.e. the student must complete a minimum of 1.0 EFTSL of study per year. |
| Start Dates | February, June, September For specific dates visit the website . | Course Length | Full-time: 2 years Part-time: 4 years |
| Payment Options - Domestic Australian students | Upfront payment This means tuition fees will be invoiced each semester and payment is required on or before the due date. FEE-HELP FEE-HELP is Australian Government's loan scheme for higher education degree courses. It can assist you in paying for all, or part of, your course fees. Repayments commence via the tax system once your income rises above a minimum threshold. Just like with any other debt, a FEE-HELP debt is a real debt that impacts your credit rating. | Payment Options – International students | Upfront payment This means tuition fees will be invoiced each trimester and payment is required on or before the due date. <i>Further information within this Course Information Sheet</i> |
| Course study requirements | Each subject involves 10 hours of study per week, comprising 3 hours of facilitated study and 7 hours self-directed study. | Assessment | Project/Application Proposal, Process/Project Documentation, Application Outcome, Reflective Journal/Blog, Report/Essay, Presentation/Pitch, Examinations/Tests/Quizzes, Investigation, Collaboration, Individual self-directed major project, Work integrated learning project work, Software development for enterprise-grade cybersecurity/Simulated computing and network |
| Locations | Sydney Melbourne Adelaide Brisbane Online | Delivered by | Torrens University Australia |

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| Provider | Torrens University Australia Ltd is registered as a self-accrediting Australian university by the Tertiary Education Quality and Standards Agency (TEQSA). | CRICOS Course Code | |
| Provider obligations | Torrens University is responsible for all aspects of the student experience, including the quality of course delivery, in compliance with the Higher Education Standards 2015 | Accrediting body | Torrens University Australia Ltd |
| Course Fees | For details, refer to the website . | Any other fees | For details, refer to the website . |

2. Essential requirements for admission

The general admission criteria that apply to Torrens University Australia courses can be located by visiting the Torrens University Australia website - <https://www.torrens.edu.au/general-admission-information-for-torrens-university-australia-ltd>.

3. Admission Criteria

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| Title of course of study | Master of Cybersecurity (Advanced) |
| Applicants with higher education study | The standard entry requirement is a completed qualification at AQF Level 7 (Bachelor degree) or above from an Australian University (or at an equivalent overseas higher education) in Information Technology, Business Information Systems or relevant disciplines. |
| Applicants with vocational education and training (VET) study | N/A |
| Applicants with work and life experience | Demonstrated ability to undertake study at the required level: <ul style="list-style-type: none"> • broadly relevant work experience in Information Technology (documented e.g. CV), demonstrating a reasonable prospect of success; OR • formal, informal or non-formal study, completed or partially completed, demonstrating a reasonable prospect of success; OR • written submission to demonstrate reasonable prospect of success. |
| English Language Proficiency (applicable to international students, and in addition to academic or special entry requirements noted above) | IELTS level 6.5 required, with no element less than 6 (or equivalent TOEFL, CAE or PTE). |

How to apply

Via direct application to the institution

- <https://apply.torrens.edu.au/>

4. Advanced standing/academic credit/recognition of prior learning (RPL)

You may be entitled to credit for prior learning, whether formal or informal. Formal learning can include previous study in higher education, vocational education, or adult and community education. Informal learning can include on the job learning or various kinds of work and life experience. Credit can reduce the amount of study needed to complete a degree.

Applicants admitted based on prior higher education study may be eligible for Advanced Standing in the form of credit and/or recognition of prior learning (RPL) under the Torrens University Australia [Credit Policy - \(https://www.torrens.edu.au/policies-and-forms\)](https://www.torrens.edu.au/policies-and-forms).

- Students with completed subjects may be eligible for specified credit and/or elective exemptions
- Students who have completed a qualification at AQF level 5 (diploma) or above may be eligible for block credit (where a block credit agreement exists)
- Students with a mix of formal study and informal and/or non-formal learning may be eligible for recognition of prior learning in addition to any credit approved.

Credit will not be applied automatically. Applicants must apply for credit and/or RPL as early as possible prior to each study period, with applications not accepted after week 2.

For further information about credit and recognition of prior learning please see <http://www.torrens.edu.au/apply-online/course-credits>.

5. Where to get further information

- Torrens University Australia (TUA) Website
 - <https://www.torrens.edu.au/>
- Universities Admissions Centre (UAC) Website
 - <http://www.uac.edu.au/>
- Quality Indicators for Learning and Teaching (QILT) Website
 - <https://www.qilt.edu.au/>

6. Additional Information

Course Structure

The course structure comprises of 12 core subjects and 1 elective subject over levels 400, 500 and 600, as follows:

- Level 400: 2 mandatory core subjects (20 credit points)
- Level 500: 5 mandatory core subjects (50 credit points)
- Level 600: 5 mandatory core subjects and 1 elective subject (90 credit points)

Course Rules

To be awarded the Master of Cybersecurity (Advanced), students must complete 160 credit points over 13 subjects as outlined in the course structure above. Each subject has a value of 10 credit points, with ITW601 at 20 credit points and ITA602 at 30 credit points.

Subjects

| SUBJECT DETAILS |
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| SUBJECT TITLE, DESCRIPTOR |
| LEVEL 400 |
| <p>NDS441 Network Design and Security</p> <p>In Network Design and Security, students will be introduced to principles of network communications, topologies, and security protocols. Contemporary and advanced techniques for managing and protecting computing networks will be explored to ensure the protection of commercially processed data and their supported applications. Students will be given an opportunity to design and evaluate a contemporary computing network with a focus on next generation firewalls, threat management systems, and advanced access management, and present network design and security strategies to protect the business against emerging cybersecurity attacks.</p> |
| <p>CPO442 Cybersecurity Principles and Organisational Practice</p> <p>This subject introduces students to cybersecurity principles with a focus on the human factors involved and their consequences on business operations. IT risk management, security strategies and governance will be explored to protect both end-users and business operations. Students will plan, develop and communicate a cybersecurity strategy for an enterprise with consideration of human behaviours, system requirements and operational assurance.</p> |

| SUBJECT DETAILS |
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| SUBJECT TITLE, DESCRIPTOR |
| LEVEL 500 |
| <p>MIS501 Principles of Programming</p> <p>This subject introduces you to coding for business as a tool for developing systems and addressing business needs. You will learn Unified Modelling Language (UML) and Integrated Development Environment (IDE) to design, create, compile, test and run programs, applying object-oriented concepts to solve organisational problems. This subject will introduce you to an object-oriented paradigm and will equip you with the skills to assess and apply requirements in business environments.</p> |
| <p>SWF541 Software Fortress and Data Protection</p> <p>Software Fortress and Web protection introduces students to the tools and methodologies to secure software and web applications against external threats and internal risks. Important topics will be explored, such as advanced risk management in software systems, development of resilient systems to safeguard data and applications, and sustained protection of users and data against emerging cybersecurity attacks. Upon successful completion of this subject, students have the skills and knowledge needed to develop sustainable and dependable software and web systems according to the industry standards.</p> |
| <p>ICD542 IoT, Cloud and Digital Infrastructure Protection</p> <p>In this subject, students will be introduced to the methodologies and techniques that enable secure digital infrastructure, including Internet of Things (IoT), cloud networks, and extended computing networks. Specialist topics that are relevant to contemporary and future industries will be explored such as Artificial Intelligence (AI) driven security solutions and cloud enabled secure environments. The knowledge and skills acquired in the subject will equip students with the ability to devise an innovative security solution to protect digital infrastructure for public safety and a sustainable future society.</p> |
| <p>ISY503 Intelligent Systems</p> <p>This subject aims to give a broad introduction of intelligent systems, that is, how technologically advanced machines perceive and respond to the world around them. Discussion will focus on how Artificial Intelligence (AI) concepts and classifications are used to design intelligent systems. Overview of AI topics such as representation, reasoning, search methods, intelligent agents, learning, uncertainties and probabilities, perception and action, and communication are presented. It also includes discussions of AI classifications such as Machine Learning, Robotic, Natural Language Processing, Speech Recognition, Expert Systems, Computer Vision, and how they are used to make intelligent systems. This subject also enables students to understand the particular ethical issues that AI presents and how it can be used to benefit society.</p> |
| <p>REM502 Research Methodologies</p> <p>This subject introduces students to a framework for developing good scholarly inquiry skills and fundamental knowledge needed to make rational decisions about research strategies. Students will be presented with research strategies to critically investigate exemplar studies and examine the connection between a research question with appropriate research design and methodology. On completion of this subject, students should be able to develop researchable questions, and write research proposals and literature reviews. They will have a critical understanding of the strengths and limitations of the quantitative, qualitative and mixed method approaches to research. They will also learn about the ethical principles of research, challenges in getting approval and the approval processes.</p> |

| SUBJECT DETAILS |
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| SUBJECT TITLE, DESCRIPTOR |
| LEVEL 600 |
| <p>MLN601 Machine Learning</p> <p>This subject is designed to provide a graduate-level student an in-depth understanding of the methodologies, technologies, and algorithms currently used in machine learning. Students will be introduced to the theory behind a range of machine learning tools and practice applying the tools to different applications. It explores topics such as classification, linear models, supervised and unsupervised learning in conjunction with applied and theoretical machine learning concepts. Students complete practical activities using machine learning algorithms and methods.</p> |
| <p>CSE641 Cybersecurity for Sustainable Enterprises</p> <p>Cybersecurity and Sustainable Enterprises enables students to develop their knowledge and understanding of enterprise governance standards and strategies with a focus on cybersecurity law and regulations. Digital transformation and its impact on business enterprises will be explored to ensure secure and efficient operational sustainability. Students will plan, develop and communicate sustainable cybersecurity solutions that are dependable and trustworthy, and encompass enterprise culture and viability.</p> |
| <p>HCC642 Human-Centric Cybersecurity in a Smart Society</p> <p>Human-Centric Cybersecurity in a Smart Society develops students' knowledge and understanding of advancements in digital technology with consideration of human factors and a smart digital society. Digital disruption, contemporary cybersecurity solutions, and security breaches will be explored to design a sustainable and secure digital world including social media and virtual spaces, and ensure compliance with standard security frameworks. Students will design, deploy and communicate smart effective software solutions for both business and entertainment applications that are based on the smart trust scheme needed for a digital society.</p> |
| <p>ITW601 Information Technology – Work Integrated Learning</p> <p>This subject is designed to provide students an opportunity to pursue a significant IT project in a professional environment. This enables students to develop skills that enhance their prospects of gaining meaningful employment and build their career for the future.</p> <p>Work integrated learning broadens the students' learning environment while they are studying and allows them to see first-hand how their learnings in their degree translates in practice, as well as how 'real world' practice relates to what they are learning at University.</p> <p>Option 1: Industry Placement</p> <p>Students are offered the opportunity to work as an intern within a technology company or volunteer at a technology non-profit organisation. It encourages students to build long-term relationships with the tech industry and provides an opportunity for them to work with and learn from people who may end up becoming colleagues, managers or mentors. It also provides a context in which to enhance their communication skills and work collaboratively in a professional arena. Students will undertake a series of industry-led tasks that are relevant to their field of study in order to understand the key concepts of working in and managing a professional technology team with emphasis placed on the operation of the environment.</p> |

Option 2: Industry Live Brief

Industry live brief, also known as an industry project engages students in an activity where the parameters of success are set by the client. Academic staff and industry provide supervision for students, while industry provides, mentorship in addition. Numerous technology firms have ideas and opportunities they would like to explore and prototype; this is where students or student teams connect with industry to achieve scale with minimal risk.

An understanding of research methodologies appropriate to professional practice and the documentation of personal creative investigation is explored. Students also further investigate and examine entrepreneurial and commercial opportunities through collaborative work practice. The subject fosters a cross-discipline perspective and draws on both specialised and common software development practices.

Students are required to work both independently and as part of a collaborative team that includes industry representatives to conduct research, analyse and define project parameters and deliver innovative solutions that expand the notion of an industry live brief.

Students are required to work independently or as part of a collaborative team in order to conduct research, analyse and define project parameters and deliver innovative solutions.

ITA602 Advanced Information Technology – Work Integrated Learning

This subject builds upon the subject ITW601 Information Technology – Work Integrated Learning enabling students to further develop and apply strategic processes, creative tools & research for innovation in the field of IT. It extends the opportunity to pursue the significant project in a professional environment enabling students to develop skills that enhance their prospects of gaining meaningful employment and build their career for the future.

Industry Capstone Project

Students execute, finalise and present their self-initiated project exhibiting a sophisticated understanding of IT, whilst addressing the university ethos. Central to the project will be evidence of critical analysis, reflexive and reflective practice and social engagement, in addition to the use of refined visual language in its execution with particular industry relevancy for which their project is intended. Students draw upon the philosophical, practical, methodological, theoretical and technical tools they have gathered over the duration of the degree to complete a successful project. Students are mentored through this research project by an industry supervisor with complementary practice-based research expertise. Projects must pertain to the field of Information and Communication Technology (ICT).

Students are required to work independently or as part of a collaborative team in order to conduct research, analyse and define project parameters and deliver innovative solutions.

Locations

The Master of Cybersecurity (Advanced) can be studied fully online or at the below Torrens University Campuses:

- Sydney: 46-52 Mountain Street, Ultimo NSW Australia 2007
- Melbourne: 196 Flinders St, Melbourne, VIC 3000
- Adelaide: 82-98 Wakefield Street, Adelaide, SA, 5000
- Brisbane: 90 Bowen Terrace, Fortitude Valley, QLD 4006
- Online

Campus Facilities and Services

All campuses are designed to provide students with professional spaces in which to learn and work. They have been planned with student study needs in mind with well-equipped accessible learning spaces as well as student breakout areas for group work and spending time with friends.

Facilities and Services include:

- The Customer Service Hub – our friendly and experienced staff can give help and advice about courses, your enrolment and campus life, including all services and activities on campus.
- Counsellors are available for students to consult with on a range of personal issues
- Student wireless access throughout the Campus
- Student break-out and relaxed study spaces for group work
- Student lounge areas – most with microwaves, kitchenette facilities and vending machines
- The Learning Hub, home to the Learning Support Team, encompasses Learning Skills Advisors, Learning Technology Advisors, and Library & Learning Skills Officers. It provides an integrated, holistic support program for students throughout the study lifecycle within a library/collaborative study environment.

The service includes:

- Support and workshops with highly qualified staff in the areas of Academic skills, Library skills, and Technology skills, both on campus and online.
- Physical and digital resources relevant to studies, such as books, journals, multimedia, databases
- Self-check kiosks for library loans and print and copy facilities

A positive student experience

Torrens University Australia values the importance of a positive student experience, and therefore has robust processes to resolve student complaints. The Student Complaints Policy, and associated procedures, can be accessed from the [website \(https://www.torrens.edu.au/policies-and-forms\)](https://www.torrens.edu.au/policies-and-forms).

Paying for your qualification

We offer two payment options for this course:

- **Upfront payment**
If you want to complete your qualification debt-free you can choose to pay as you go. This means tuition fees will be invoiced each semester and payment is required on or before the due date using EFTPOS, credit card or direct transfer.
- **FEE-HELP**
FEE-HELP is Australian Government's loan scheme for higher education degree courses. It can assist you in paying for all, or part of, your course fees. Repayments commence via the tax system once your income rises above a minimum threshold. Just like with any other debt, a FEE-HELP debt is a real debt that impacts your credit rating.

Further information about FEE-HELP, including eligibility, is available at:

- FEE-HELP website:
<http://studyassist.gov.au/sites/studyassist/help-payingmyfees/fee-help/pages/fee-help->
- FEE-HELP booklets:
<http://studyassist.gov.au/sites/studyassist/helpfulresources/pages/publications>

Austudy and Abstudy

Students enrolled in this course may be eligible for government assistance, such as [Austudy](#) or [Abstudy](#).