COMPUTER SCIENCE ONLINE

GRADUATE CERTIFICATE OF COMPUTER SCIENCE

GRADUATE DIPLOMA OF COMPUTER SCIENCE

MASTER OF COMPUTER SCIENCE
WHY STUDY ONLINE WITH MONASH UNIVERSITY

Consistently ranked in the top 100 universities internationally – and a member of the Group of Eight (Go8) in Australia – Monash sets itself apart.

BEHIND THE RANKINGS

As a Monash student, you’ll benefit from the research and teaching excellence provided by a university that’s always striving to be the best. Our alumni are highly sought-after by employers worldwide. You’ll receive a world-class education from an institution ranked in the top one per cent of universities globally.

Behind the rankings and accolades, your individual experience matters even more. You’ll emerge as an enriched, well-rounded individual, ready to tackle the big challenges of our time.

MAKING A DIFFERENCE

If your aim is to make an impact, Monash will open the pathways for you. You’ll acquire the skills and confidence you need to make a positive change, whether it’s in your local community or at an international level.

In a time of disruption, your life and career won’t always move in a straight line. By studying with Monash, you’ll learn to navigate this uncertainty. You’ll gain the resilience you need to adapt and make an impact on an ever-changing world.

OPEN NEW FRONTIERS ONLINE

Studying online with Monash University is a flexible way to learn. The study year is split into six teaching periods, each of which is six weeks long, so you can fit study alongside your work and family commitments. You’ll gain the benefits of our teaching excellence in a format that’s purpose-built for online study.

When you study online, the world becomes your classroom. You’ll be able to study anywhere, anytime, as you build the skills you need to excel in your career. You’ll also build a community of like-minded fellow students who’ll be on the journey with you.
HOW STUDYING ONLINE WITH MONASH WORKS

Online study is an accessible and dynamic form of study, and one that opens a range of possibilities for connection and collaboration.

STUDY ANYTIME, ANYWHERE
Studying online with Monash is liberating because it’s entirely up to you how you fit study into your life. Life is often busy, and that’s OK, because as long as you have an internet connection, you can study anytime, anywhere.

Online study with Monash unlocks new possibilities for your life and career. You’ll discover opportunities in the connected, interactive learning environment of your online classroom.

The coursework and assessments you complete will teach you the fundamentals while focusing on practical skills that will position you for lasting career success.

THE ONLINE LEARNING FORMAT
Your learning takes place in the online classroom, and is facilitated by our expert online learning advisers (OLAs). One of our industry-connected OLAs will lead a small learning group for each of your units.

Each OLA is a subject matter expert. They guide group discussions and activities, ensuring you get the most out of your online learning experience. OLAs are your first port of call when you have any questions about your unit content.

You’ll also receive a range of additional support, including from dedicated online student advisers – contactable by phone seven days a week – and access to on-campus services including Monash Career Connect.

These support services, in combination with your weekly coursework, ensure you’ll always feel connected during your online study.
CAREERS IN COMPUTER SCIENCE

Engineer a career shift into the computing industry. Our graduate-level computer science courses will provide you with expert knowledge and skills to navigate a successful career change. You will explore the latest industry developments, fully-prepared to dive into your next career challenge.

Employment growth in the information technology sector has increased steadily since 2000, and with the rapid emergence of new technologies comes the need for highly skilled workers to meet the demands of these challenges. A graduate qualification in computer science will equip you with the necessary attributes to confidently tackle various roles within the sector.

By studying computer science, you will open up professional opportunities in a wide range of sectors, allowing you to tailor your career. You’ll be well prepared to work in fields including professional services, scientific and technical services, financial services and public administration industries with a qualification founded in industry experience and expert knowledge.

YOUR CHOICE OF CAREER PATHWAYS

Computer science is broad, and there are various paths you can take after graduation. In these courses you will choose one of three industry specialisations: software engineering, cybersecurity or artificial intelligence. Each area of study represents a distinct career pathway. To assist you in making a decision, the first units you undertake will ensure you’re exposed to theories, ideas and skills related to each specialisation.

VERY STRONG

employment growth

The Australian government rates job growth for computer and ICT security professionals, system administrators and software programmers as ‘very strong’.

15.1%

industry growth

9.1% of the total Australian workforce is employed in professional, scientific and technical services, with a projected industry growth of 15.1% over the next four years.

$100,000

salary

Software engineers, information security analysts and data analysts can all expect to earn an average salary of over $100,000 per year.

INCREASING

demand

The Australian government lists technology design and programming as one of the top emerging skills expected to increase in demand.
OVERVIEW OF THE COURSES

GRADUATE CERTIFICATE OF COMPUTER SCIENCE

Your graduate certificate consists of four units covering fundamental computer science knowledge and an introductory unit on either software engineering, cybersecurity or artificial intelligence. This course is an opportunity for you to build on your work experience by adding core computer science principles to your résumé.

GRADUATE DIPLOMA OF COMPUTER SCIENCE

Your graduate diploma consists of eight units, providing you with a foundation in computer science combined with an opportunity to specialise in a key area of the discipline. Aimed at offering a pathway into the computing industry, this course will set you up to enter the job market through study, exploring the challenges of various computer science applications.

The Graduate Diploma of Computer Science is completed in two parts. There are six units in Part A, within which you’ll gain core knowledge and skills, covering programming, algorithms and databases, and architecture and networks.

In Part B you’ll undertake a two-unit specialisation of your choice: software engineering, cybersecurity or artificial intelligence.

By combining core computer science knowledge with specialist expertise, you’ll be equipped to solve prevalent computer science-related challenges in society.

MASTER OF COMPUTER SCIENCE

The Master of Computer Science is a comprehensive graduate degree, preparing you for a dynamic career shift into the computing industry. Designed for those who have not previously studied the discipline, throughout this degree you’ll explore foundational principles of computer science, undertake specialist studies in areas of your choice, and add value and expertise to your professional development portfolio.

The master’s program is completed in three parts.

Parts A and B build your foundational knowledge and provide you with specialty knowledge of a computer science focus area, while Part C is your opportunity to graduate industry-ready, completing work with direct relevance to your personal professional development portfolio.

The Applied practice units will set you apart from other graduates as you apply your knowledge to a development project, building practical experience you can take straight to your next employer.
COMPUTER SCIENCE SPECIALISATIONS

In the master’s and graduate diploma courses, you will undertake a chosen specialisation important to the future of the computing industry. In the graduate certificate, you will complete an introductory unit in one of the specialisations. Read on to learn more about each of the three unique specialisations.

SOFTWARE ENGINEERING
Cleverly designed and implemented software underpins every major organisation in the world. With the range in complexity and size of software, skilled professionals in this area of computer science are vital to the development and maintenance of software systems.

In the software engineering specialisation, choose from units that cover aspects of the software lifecycle, as well as tools and techniques for delivering reliable, quality software on time and within budget. Perfect if your interests lie in programming and software, the units in this specialisation are:

- Web application development
- Mobile and distributed systems
- User interface and usability
- Software testing, quality and standards

Career pathways for this specialty include software engineers, who are responsible for designing and maintaining software systems from small applications to larger platforms; and software architects who design, develop and implement software solutions to meet the needs of an organisation.

SOFTWARE ENGINEERING IN ACTION: AGENT OF CHANGE
Find out how Professor John Grundy is making software development more culturally diverse.

CYBERSECURITY
Technological advancement brings with it increased security risks, and the need for organisations to invest in cybersecurity has never been more important. Computer science specialists will continue to be necessary in the development and maintenance of systems designed to protect data and communication networks.

In the cybersecurity specialisation, your units delve into the knowledge and skills vital to manage and administer cybersecurity and blockchain. The units in this specialisation are:

- Software and network security
- Enterprise IT security
- Blockchain
- Cloud computing and security

Choosing the cybersecurity specialisation may lead to career pathways including information security analysts, who measure, analyse, investigate and report security incidents and vulnerabilities in an organisation’s IT infrastructure; and cybercrime investigators, who solve cybersecurity risks and manage subsequent threats and incidents.

CYBERSECURITY IN ACTION: MONASH MAKES BIG IDEAS HAPPEN
Dr Joseph Lui explains why he joined the Faculty of Information Technology at Monash.

ARTIFICIAL INTELLIGENCE
Artificial intelligence is making its way into every aspect of our lives, transforming how businesses make decisions and shaping the future of employment. Specialists in this area will have the scope to make a meaningful impact across a wide variety of industries.

The artificial intelligence specialisation is your opportunity to undertake study in one of the most exciting areas of technology. You will choose from units covering topics including statistical learning models and algorithms, modern optimisation techniques and natural language fundamentals. The units in this specialisation are:

- Machine learning
- Natural language processing
- Intelligent image and video analysis
- Discrete optimisation

Career pathways from an artificial intelligence specialisation include data analysts, who analyse, interpret and translate data into meaningful business information; and AI researchers, who advance the capabilities of AI through innovative research.

ARTIFICIAL INTELLIGENCE IN ACTION: IT FOR SOCIAL GOOD
Professor Ann Nicholson explains how Monash is using AI technology for social good.
WHY STUDY COMPUTER SCIENCE AT MONASH?

DESIGNED BY INDUSTRY-LEADING ACADEMICS

Graduate computer science courses at Monash are informed and designed by an internationally-recognised team of leading academics. Study with the confidence of knowing your innovative degree is from a faculty consistently ranked inside the top 100 universities in the world for Computer Science and Information Systems.

A FACULTY COMMITTED TO RESEARCH EXCELLENCE

When you study computer science online with Monash, you’ll join the prestigious Faculty of Information Technology. Study a degree informed by the knowledge of research-leading academics committed to solving real-world problems through the management and analysis of data. Academics who have developed effective ways to keep valuable information secure, and who understand the future of computing is undoubtedly human-centred.

ADD A MONASH QUALIFICATION TO YOUR RÉSUMÉ

A Monash graduate qualification is the perfect addition to your résumé to show employers you’re serious about the next step in your career. Complement your work experience and prior study with a graduate degree from Australia’s largest university.

FOCUSED TEACHING PERIODS

Start your degree from three points throughout the year and study in six-week long teaching periods, allowing you to focus on one unit at a time and balance study with other commitments.
The Graduate Certificate of Computer Science runs across six teaching periods per year, with three entry points.

To be awarded the Graduate Certificate of Computer Science, you must complete the following units:

- Java programming
- Algorithms and databases
- Architecture and networks

And one unit from:

- Fundamentals of artificial intelligence
- Software engineering
- Information and computer security
COURSE STRUCTURE
GRADUATE DIPLOMA
OF COMPUTER SCIENCE

The Graduate Diploma of Computer Science runs across six teaching periods per year, with three entry points.

To be awarded the Graduate Diploma of Computer Science, you must complete the following units, structured into two parts, Part A and B. If you are admitted at:

- Entry level 1, you complete Part A and two units from Part B.
- Entry level 2, you complete two units from Part B and the units that have not been completed in Part A.

PART A CORE STUDIES
You must complete the following six units:

- Java programming
- Algorithms and databases
- Architecture and networks
- Fundamentals of artificial intelligence
- Software engineering
- Information and computer security

PART B SPECIALIST STUDIES
You must complete two units from one of the following unit sets:

SOFTWARE ENGINEERING
- Web application development
- Mobile and distributed systems
- User interface design and usability
- Software testing, quality and standards

CYBERSECURITY
- Software and network security
- Enterprise IT security
- Blockchain
- Cloud computing and security

ARTIFICIAL INTELLIGENCE
- Machine learning
- Natural language processing
- Intelligent image and video analysis
- Discrete optimisation
COURSE STRUCTURE
MASTER OF COMPUTER SCIENCE

The Master of Computer Science runs across six teaching periods per year, with three entry points.

To be awarded the Master of Computer Science, you must complete the following units, structured into three parts, Parts A, B and C.

If you are admitted at:
- Entry level 1, you complete Parts A, B and C.
- Entry level 2, you complete Parts B, C and units that have not been completed in Part A.
- Entry level 3, you complete Part C and units that have not been completed under the chosen specialisation in Part B.

PART A CORE STUDIES
You must complete the following six units:
- Java programming
- Algorithms and databases
- Architecture and networks
- Fundamentals of artificial intelligence
- Software engineering
- Information and computer security

PART B SPECIALIST STUDIES
You must complete all units in one of the following specialisations:

SOFTWARE ENGINEERING
- Web application development
- Mobile and distributed systems
- User interface design and usability
- Software testing, quality and standards

CYBERSECURITY
- Software and network security
- Enterprise IT security
- Blockchain
- Cloud computing and security

ARTIFICIAL INTELLIGENCE
- Machine learning
- Natural language processing
- Intelligent image and video analysis
- Discrete optimisation

PART C APPLIED PRACTICE
- Applied practice 1
- Applied practice 2
ENTRY CRITERIA
GRADUATE CERTIFICATE OF COMPUTER SCIENCE

Applicants must have completed an Australian bachelor degree (or equivalent) or equivalent qualification or experience approved by the faculty.

ENGLISH LANGUAGE REQUIREMENT
Minimum English proficiency requirements apply. This can be demonstrated through a number of means, including prior studies or recognised English tests.

Speak with your course consultant to find your best option, or see the English language requirements page for full details.
ENTRY CRITERIA
GRADUATE DIPLOMA OF COMPUTER SCIENCE

ENTRY LEVEL 1
Applicants must have completed an Australian bachelor degree (or equivalent), in a relevant discipline, with at least a credit (60%) average or equivalent qualification approved by the faculty.

To undertake artificial intelligence studies, you must have knowledge of calculus and linear algebra at the level of undergraduate physical science or engineering.

ENTRY LEVEL 2
Applicants must have completed a Monash University Graduate Certificate of Computer Science with at least a credit (60%) average.

ENGLISH LANGUAGE REQUIREMENT
Minimum English proficiency requirements apply. This can be demonstrated through a number of means, including prior studies or recognised English tests.

Speak with your course consultant to find your best option, or see the English language requirements page for full details.
ENTRY CRITERIA
MASTER OF COMPUTER SCIENCE

ENTRY LEVEL 1
Applicants must have completed an Australian bachelor degree, in a relevant discipline, with at least a credit (60%) average or equivalent qualification approved by the faculty.

To undertake artificial intelligence studies, you must have knowledge of calculus and linear algebra at the level of undergraduate physical science or engineering.

ENTRY LEVEL 2
Applicants must have completed an Australian Graduate Certificate of Computer Science, with at least a credit (60%) average.

ENTRY LEVEL 3
Applicants must have completed a Monash University Graduate Diploma of Computer Science, with at least a credit (60%) average.

ENGLISH LANGUAGE REQUIREMENT
Minimum English proficiency requirements apply. This can be demonstrated through a number of means, including prior studies or recognised English tests.

Speak with your course consultant to find your best option, or see the English language requirements page for full details.
FEES AND FINANCIAL ASSISTANCE

You may be eligible for a FEE-HELP loan, so you don’t have to pay your fees upfront.

Defer your fees with a FEE-HELP loan and you’ll only need to begin repaying the loan when your income reaches a certain level in a given tax period.

You’ll pay a greater percentage of your income towards your debt as your income increases. The Australian Tax Office calculates this each year.

For additional information, and to confirm your eligibility, visit the Study Assist website.
HOW TO APPLY

The application and enrolment process is straightforward, and you'll be supported by one of our friendly course consultants every step of the way.

**STEP 1**
**SPEAK TO A COURSE CONSULTANT**
Call a course consultant on 1300 272 509. They’ll be able to answer any questions you may have regarding the application process. They can also help you select an appropriate study load, and provide information on fees and how online study works.

**STEP 2**
**PROVIDE DOCUMENTATION**
Your course consultant will guide you through the application and enrolment process, and outline the documents you need to supply so we can process your enrolment.

**STEP 3**
**RECEIVE AN OFFER**
Once your application has been processed, you’ll receive an offer over the phone and in writing.

**STEP 4**
**ACCEPT YOUR OFFER**
Secure your place by accepting the offer and enrolling into your course.

Book a call to speak to one of our course consultants:

[BOOK A CALL]
CONTACT US

MONASH ONLINE
monash.edu/online-courses

FIND A COURSE
monash.edu/study

T 1300 272 509

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