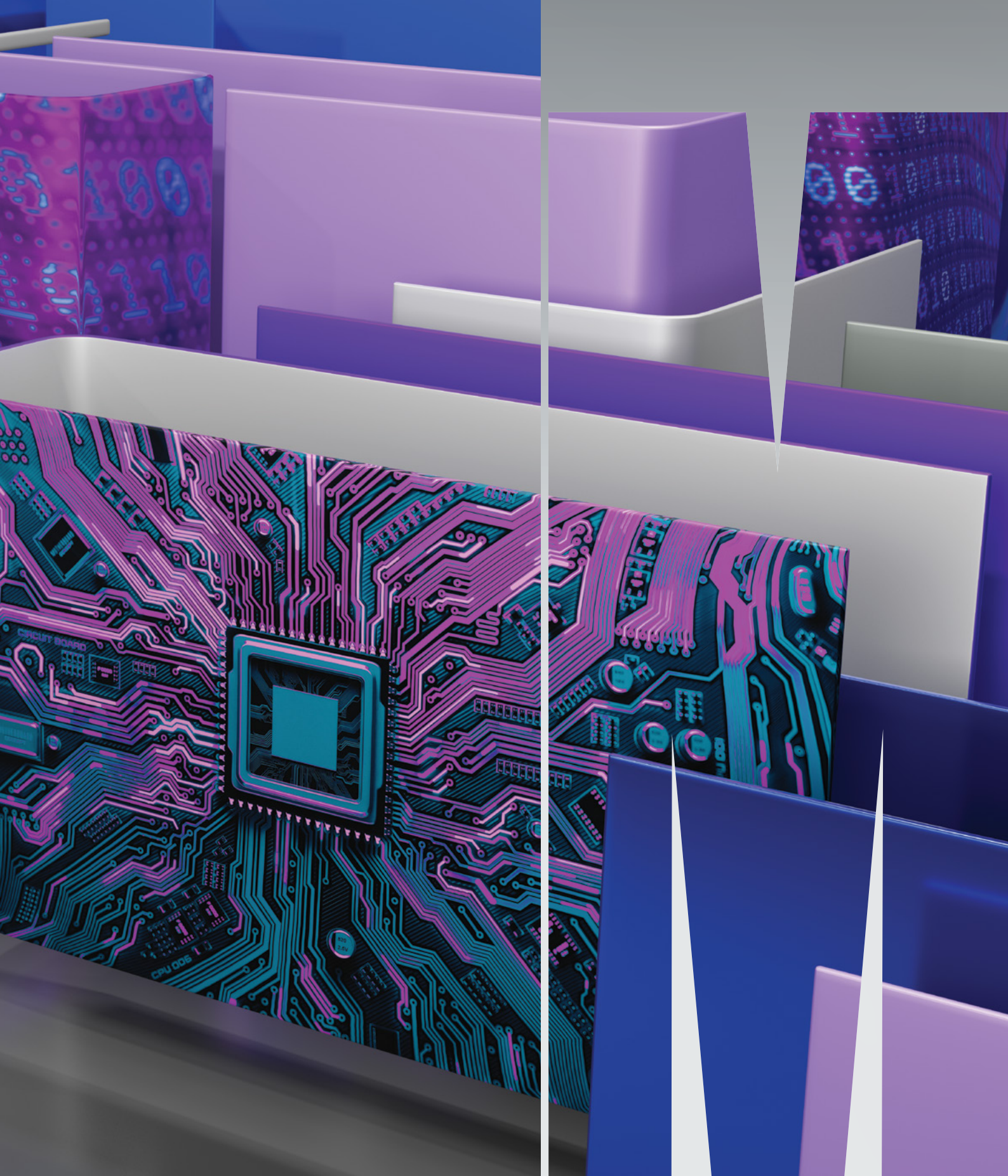


INFORMATION TECHNOLOGY

GRADUATE
COURSE GUIDE
2023





IT'S TIME TO UNLOCK YOUR POTENTIAL

Monash is the only university out of the prestigious Group of Eight to have an entire faculty dedicated to IT. We're also consistently recognised for the calibre of our education and research – considered among the best in the world.

As one of our graduate students, you'll learn from leading researchers who are innovating in every area of IT. Internationally recognised, they'll help enrich your knowledge and enhance your capabilities.

You'll also get access to cutting-edge facilities designed to let you delve deeper into a field of your choice.

TOP 100

Monash is ranked in the top 100 in the world for Computer Science and Information Systems¹

MOST INNOVATIVE

Monash was named Australia's most innovative university in 2017, 2018 and 2019²

ABOVE WORLD STANDARD

We're the only Australian university rated as 'above world standard' across every category in Information and Computing Sciences³


¹ QS World University Rankings by Subject (2022)
² Reuters Top 75: Asia's Most Innovative Universities (2017-2019)
³ State of Australian University Research 2018-19: ERA National Report


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
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Course information fast facts

Look for these icons on each course page for key information.

 Location

 Duration

 Intakes

 Degree awarded

This course guide includes QR codes that link to more information. Simply scan them with your smartphone camera or QR app.

NEW KNOWLEDGE, NEW OPPORTUNITIES

People from across the globe are drawn to our graduate programs, renowned for their breadth, depth and flexibility.

Whether you've been in the industry for a few years or just finished your bachelor's, let our graduate degrees propel you towards your professional goals.

To broaden your skills and expand your career prospects, our courses cover a comprehensive range of units – from the fundamentals to the specialised.

What's more, they give you the freedom to explore a range of areas before honing in on a discipline you're interested in.

**CHOOSE
YOUR
MASTER'S**

COMPUTER SCIENCE

DATA SCIENCE

INFORMATION TECHNOLOGY

BUSINESS INFORMATION SYSTEMS

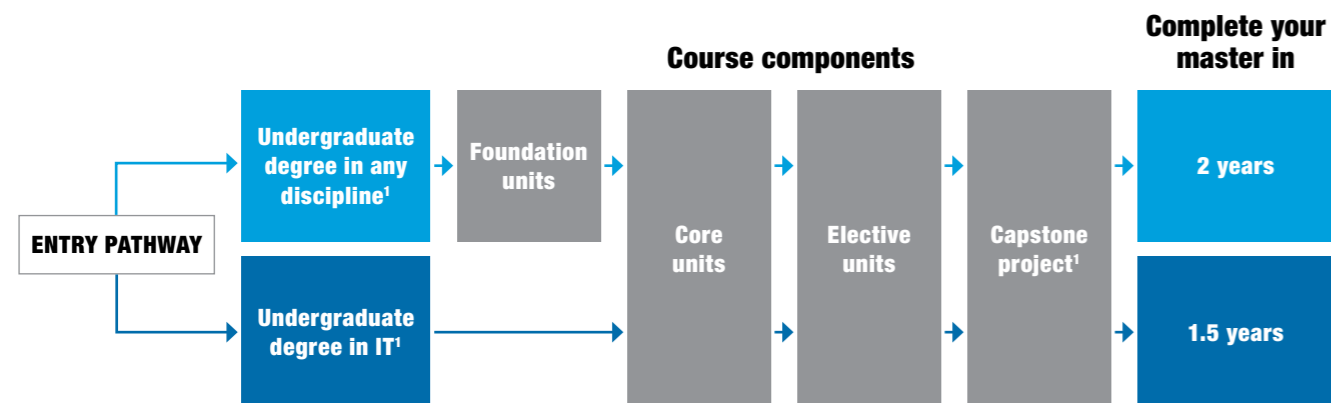
CYBERSECURITY

ARTIFICIAL INTELLIGENCE

HEALTH DATA ANALYTICS

YOUR GRADUATE DEGREE PATHWAY

Most of our graduate degrees start with foundation and core units. Then, through electives, they let you explore specific topics to refine your expertise. The duration of your course will depend on which path you pursue, as shown below.



NOTE: The Master of Computer Science does not include foundation units.

¹ If you have a research honours degree, the Capstone Project may not be required for the Master of Data Science.



We also support our students and their studies by offering immersive, collaborative learning spaces – such as our studios in the Woodside Building for Technology and Design.
bit.ly/ITwoodside

IMMERSE IN REAL-WORLD PRACTICE

At Monash, we pair theory with practice. It's the best way to complement your learning. Through our range of popular industry initiatives, you'll get the chance to apply your expertise to real-world problems.

INDUSTRY EXPERIENCE (IE)

When you choose industry experience as your capstone project, you'll work with students from a range of IT disciplines to address a real, pressing challenge.

In the project, you'll deploy everything you've learned while gaining valuable business insights and hands-on experience to advance your career. All while under the guidance of a mentor from industry.



To learn more, scan the QR code.

bit.ly/PGindustry

*IE is available in all master's degrees except the Master of Computer Science

RESEARCH IN ACTION

Named Australia's most innovative university three years in a row, Monash is known for producing high-quality research¹.

Master's projects

If you want to delve deep into IT research, then undertake a research initiative for the capstone project in your master's degree.

The ideal pathway into graduate research, you'll spend two semesters investigating a relevant area of interest and writing a thesis – with the support of at least two experts in the field.

Your project is a rare opportunity for you to develop a profound understanding in an IT discipline you're passionate about, under the mentorship of leading specialists.

*Master's projects available in all master's degrees except the Master of Computer Science

Graduate research degrees

When you undertake a research degree (MPhil or PhD) at Monash, you'll have access to:

- generous scholarships
- student support
- supervisors who are world leaders in their fields
- partnerships with industry and professional associations
- an inspirational, rapidly-growing community of students like you.

Attracting the largest number of enrolments out of all the Group of Eight universities, our graduate research degrees follow the Monash Doctoral Program that blends original research with training.

The goal? To refine your research skills and acumen – and prepare you for success in your chosen career.

MONASH INDUSTRY TEAM INITIATIVE (MITI)

MITI is an Australian first – and unique to Monash.

An outstanding opportunity, it allows selected students to put their academic knowledge into practice while immersed in a contemporary business environment.

As part of a multidisciplinary team, you'll be paired with a top organisation where you'll help design an innovative solution to a business challenge. Through this program, you'll gain valuable exposure to the dynamics of industry, acquire hands-on experience and set yourself apart in a competitive job market.



To learn more about MITI, scan the QR code.

miti.monash.edu

1 Reuters Top 75: Asia's Most Innovative Universities (2017-2019)

SUPPORTING OUR STUDENTS IN MANY WAYS

Scholarships and grants

When you enrol in a graduate degree, you could receive a Monash scholarship that aims to promote equity and excellence.

We actively find scholarship opportunities on your behalf and put you forward for them. All you have to do is accept!

This added financial support can help cover costs during your studies, so you can focus on your learning – and open greater opportunities. Here's what you could be eligible for:

- Information Technology Postgraduate Scholarship
- The Broadspectrum Scholarship for Women in Information Technology
- Monash International Merit Scholarship
- Information Technology Indigenous Merit Scholarship
- Information Technology Indigenous Study Support Scholarship
- Merit Scholarship



For more scholarships information, scan the QR code below.

monash.edu/it/future-students/scholarships

Women in IT

On top of our scholarships, we also run the Women in Technology Alumni Mentoring program. This initiative gives women and non-binary IT students greater opportunities to form networks, build confidence and plan their careers with a mentor.

People living with disabilities

Through our peer mentoring program, students living with disabilities can learn through the experiences of others – while expanding and developing their social network at Monash.

Monash Graduate Association (MGA)

For over 50 years, the MGA has provided graduate research and coursework students with advocacy, advice and support services. They can help you resolve any administrative, academic or welfare issues.

The LGBTIQ+ community

To support the LGBTIQ community, Monash has Queer 101 training for students. We also have the Ally Network, where members take a proactive stance against discrimination based on sexual orientation, gender identity and intersex status.

First Australians

On top of our dedicated scholarships and research projects, we're also enhancing the participation and success of our Indigenous students by embedding their perspectives and content into our curriculum.



To learn more about equity, diversity and inclusion, scan the QR code below.

monash.edu/about/diversity-inclusion



Clayton

1.5 or 2 years full-time
3.5 or 4 years part-time

February and July

Master of Data Science

ALTERNATIVE EXITS

- Graduate Diploma of Data Science
- Graduate Certificate of Data Science

COURSE CODE: C6004 CRICOS CODE: 085349A

Master of DATA SCIENCE

With expertise that's sought-after worldwide, data scientists extract gold from mounds of information. With the insights they uncover, these professionals drive innovation and transformation across many sectors.

Even if you don't come from an IT-related background, you can still enrol in our Master of Data Science.

This degree first teaches you the fundamentals of the discipline through units covering programming, mathematics and databases. Then you'll progress to more advanced areas such as data wrangling, IT research and statistical modelling.

Through the course's choice of electives, you also get to expand your knowledge in an IT specialisation of your interest.

When you reach your final year, it's time to gain some real-world experience. Choose between developing a data-driven IT solution with the support of a top organisation or complete a research project under the guidance of a leading expert (a step toward a PhD).

What you'll learn

With access to the largest group of data scientists in any research institution in the Asia-Pacific, you'll learn how to:

- analyse the lifecycle of data through an organisation
- implement major theories in data analysis and exploration in common contexts and challenges
- plan a data science project in a new area of application using your expertise in the data lifecycle and analysis process
- investigate, analyse, document and communicate the core issues and requirements in developing the data analysis capabilities of a global organisation
- demonstrate an understanding of data science to a standard suited to senior professional practice
- review, assess, synthesise and apply modern data science theories (through an independent research project and thesis, or by using research methods for scholarly or professional purposes)
- review, assess, synthesise and apply modern data science theories (through an independent research project and thesis, or by using research methods for scholarly or professional purposes)
- record and convey ethical and legal considerations in data science regarding privacy, security and other areas of community concern.

Pathways open to you

Here are some careers you could pursue with a graduate degree in data science:

Data scientist

As a data scientist, you'll extract meaning from data using a range of tools and methods. You'll also spend a lot of time collecting information and ensuring it's reliable to act on.

Chief data officer

Your goal as a chief data officer will be to manage the organisation-wide collection, storage and analysis of data – to achieve your business' high-level mission.

Data architect

Your responsibilities as a data architect will revolve around drawing up blueprints for building, testing and maintaining databases.

Quantitative analyst

In a quantitative analyst role, you'll design and execute complex mathematical models to inform an organisation's financial decisions and reduce its risks.

Data analyst

Businesses collect huge amounts of data through a variety of functions. Your job as a data analyst will be to translate all the complex numbers into insights that will help your organisation make better business decisions.

Data engineer

As a data engineer, you'll be trusted with the development, testing and maintenance of architectures such as databases and processing systems.

ENTRY REQUIREMENTS

| | Average requirements ¹ | Entry level | Duration (full-time in years) ² |
|---|-----------------------------------|-------------|--|
| Bachelor's degree (or equivalent) in any field, <i>OR</i> an equivalent qualification approved by the faculty | Credit (60%) | 1 | 2 |
| Bachelor's degree (or equivalent) in a related field ³ , <i>OR</i> an equivalent qualification approved by the faculty | | 2 | 1.5 |

¹ In equivalent Monash University grading scale terms, a 100% scale where 50% is a pass. Your prior qualification/s must be accredited to the equivalent Australian level specified in the eligibility requirements table.

² Even if you're eligible for a shorter course duration, you may elect to complete the longer duration.

³ Related fields include a degree related to IT, or a business engineering or science degree with an IT major including programming, databases, and mathematics.

COURSE STRUCTURE

In the Master of Data Science, you'll complete:

Four foundation units⁴

- algorithms and programming foundations in Python
- introduction to databases
- mathematical foundations for data science
- introduction to computer architecture and networks.

Five core units

- introduction to data science
- data wrangling
- IT research methods
- data exploration and visualisation
- statistical data modelling.

Three additional units

Choose from:

- applied data analysis
- machine learning
- data processing for big data
- data analysis for semi-structured data
- introduction to bioinformatics
- advanced bioinformatics: efficient genome, transcriptome and proteome analysis.

Capstone project

One elective offered by us or another faculty.

AND

Industry experience

- industry experience studio project
- professional practice.

OR

A master's thesis

⁴ Previous studies in IT may apply as credit for the foundation units.

DID YOU KNOW?

Data Engineer is one of Australia's fastest-growing positions over the past five years.

LinkedIn Jobs on the Rise Report Australia 2022



To learn more about the Master of Data Science, scan the QR code.

handbook.monash.edu/2022/courses/C6004

Shobhit's story

Scan the QR code to learn more about alumnus Shobhit Talwar, his experience at Monash – and how the Master of Data Science enhanced his career.

youtu.be/go3lLh4Z8Fc



THE SKILLS NEEDED TO SUCCEED

My degree equipped me with the skills needed to succeed as a consultant at KPMG. It also helped me enhance my leadership, communication, critical thinking and evidence-based argument capabilities.

In my role, I use valuable insights from data to point clients in the best possible route – and I walk the journey with them too.

VIVIAN WONG

Master of Data Science



Monash Online

0.7, 1.4 or 2 years part-time

January, March, May, July, August and October

Master of Computer Science (Artificial Intelligence)

Master of Computer Science (Cybersecurity)

Master of Computer Science (Software Engineering)

ALTERNATIVE EXITS

- Graduate Diploma of Computer Science
Graduate Certificate of Computer Science

COURSE CODE: C6008 CRICOS CODE: 085349A

Master of COMPUTER SCIENCE

Armed with advanced computer science knowledge as well as specialist expertise in artificial intelligence, software engineering or cybersecurity, be ready to take on new challenges and expand your professional prospects.

The Master of Computer Science is a broad-based degree designed by award-winning, internationally-recognised tech pioneers in the only dedicated IT faculty out of the prestigious Group of Eight.

As you progress through the course, you'll gain key foundational knowledge in algorithms, programming, architecture and networks, databases and more. You'll also be introduced to three top emerging disciplines – artificial intelligence, software engineering and cybersecurity, one of which you can specialise in.

Back all this practical theoretical knowledge with a portfolio of real-world applications and esteemed accreditations, and you'll be prepared to seize a whole new world of opportunity.

What you'll learn

After completing the Master of Computer Science, you'll be equipped to:

- analyse, critically evaluate, synthesise and apply contemporary computer science theories and techniques
leverage advanced problem-solving skills to drive innovative solutions in artificial intelligence, cybersecurity or software engineering
use industry-standard tools and techniques to build reliable, efficient software systems
design architectures that incorporate new and emerging technologies from at least one of the fields of software engineering, artificial intelligence and cybersecurity
strategically assess, document, communicate, navigate and stay abreast of ethical, legal and social issues surrounding the application of technology in the global economy
communicate and collaborate effectively with stakeholders from a variety of industries and backgrounds, such as finance, retail, IT, government, not-for-profit and more.

Pathways open to you

Comprehensive foundational units, an in-demand specialisation and extensive application study mean you'll be empowered to transform your career – and occupy an enviable position in the employment market.

Some top-emerging jobs you'll be qualified to take on include:

Software engineer

Blend knowledge in programming languages, development and operating systems with engineering principles to create customised software such as mobile applications, security tools and more.

Cybersecurity specialist

Safeguard organisational systems, networks and data by identifying vulnerabilities and risks, and then evaluating and implementing cybersecurity defenses.

Software developer

Be the creative mind behind programs and apply your technical skills to build software that enables users to perform specific tasks on devices such as phones, computers and tablets.

Artificial intelligence specialist

Leverage your expertise with AI technologies and platforms to build services, conduct image recognition, drive natural language processing and more, to creatively solve pressing organisational problems.

ENTRY REQUIREMENTS

Table with 4 columns: Entry requirements, Average requirements, Entry level, Duration (part-time in years). Rows include Bachelor's degree, Monash University Graduate Certificate of Computer Science, and Monash University Graduate Diploma of Computer Science.

1 In equivalent Monash University grading scale terms, a 100% scale where 50% is a pass. Your prior qualification/s must be accredited to the equivalent Australian level specified in the eligibility requirements table.
2 Even if you're eligible for a shorter course duration, you may elect to complete the longer duration.
3 Related fields include any degree in a STEM discipline, or degrees that have mathematics, business analytics, scientific or critical thinking, or problem solving.
4 For entry level 1, to undertake the artificial intelligence specialisation you must have knowledge of calculus and linear algebra at the level of undergraduate physical science or engineering.

COURSE STRUCTURE

In this course you'll complete:

Core master's units

- Java programming
architecture and networks
software engineering
algorithms and databases
fundamentals of artificial intelligence
information and computer security.

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
intelligence image and video analysis
discrete optimisation.

Applied practice

- applied practice part 1
applied practice part 2.



To learn more about the Master of Computer Science, scan the QR code.

handbook.monash.edu/2022/courses/C6008



- Clayton
- 1.5 or 2 years full-time
3 or 4 years part-time
- February and July
- Master of Information Technology

ALTERNATIVE EXITS

- Graduate Diploma of Information Technology
- Graduate Certificate of Information Technology

COURSE CODE: C6001 CRICOS CODE: 079055K



Accredited by the Australian Computing Society.

Master of INFORMATION TECHNOLOGY

Technology underpins almost all disciplines around the world, including engineering, business, medicine, art and finance. This means professionals with IT expertise are always in high demand.

The Master of IT provides you with the knowledge, skills and experience to solve real challenges using the latest technology.

This course includes preparatory units to create a foundation for the rest of the degree. This means you can still pursue your interest in IT even if you don't have a background in the field.

This master's degree also lets you complete either an industry experience project while supported by a driven business mentor or take the lead on a research project – a step towards a PhD. Whatever your goals, the choice is yours.

By studying the Master of IT, you'll prepare yourself to work at the highest levels in the field and stand at the forefront of technological advancement.

Interested in research?

If you choose the master's thesis, you'll undergo training and complete a minor thesis with support from an esteemed academic. High-achievers may progress to further study at PhD level.

Pathways open to you

Software engineer

When you become a software engineer, you'll use your knowledge of engineering principles and computer science to build different types of software products and run network control systems.

Data architect

In this role, you'll create blueprints for complex computer database systems. Your work will also involve testing and planning the databases you design.

Enterprise data architect

As an enterprise data architect, you'll be responsible for collating master blueprints that align IT programs with information strategies. You'll also drive integration, quality enhancement and successful data delivery.

App developer

As an app developer, your main responsibilities will include creating, testing and programming apps for computers, mobile phones and other devices.

What you'll learn

After completing the Master of IT, you should know how to:

- apply problem-solving skills and sound theoretical knowledge when designing and building innovative IT-based solutions
- critically review and synthesise theories and techniques in IT
- use, extend and generalise advanced techniques to solve complex problems and adapt to future changes in the IT industry
- evaluate, with scientific rigour, the application and extension of theories and techniques in IT
- assess and implement industry-standard tools and techniques for building complicated software systems
- communicate effectively with diverse stakeholders
- carefully analyse, document and communicate ethical, legal and social issues around using IT
- investigate IT problems (through independent research and a research thesis, or by using research methods for academic or professional purposes).

Systems analyst

After becoming a systems analyst, you'll analyse, develop and implement information systems to reach business objectives. You'll also liaise with end users, software vendors, programmers and other stakeholders to drive organisational improvements.

Solutions architect

Your duty as a solutions architect will be to translate business needs into frameworks for solutions, and then explain them to relevant stakeholders

Chief technology officer

This position requires you to examine the short- and long-term needs of an organisation and then invest capital into the right technology, policies and procedures to meet them.

ENTRY REQUIREMENTS

An Australian bachelor's degree, not necessarily in IT, *OR* an equivalent qualification approved by the faculty

An Australian bachelor's degree in a cognate discipline or major in IT including computing, computer science or a technical information technology field, with completed studies in programming, databases, computer architecture, algorithms and data structures, data communications and system analysis and design, *OR* an equivalent qualification approved by the faculty

| Average requirements ¹ | Entry level | Duration (full-time in years) ² |
|-----------------------------------|-------------|--|
| | 1 | 2 |
| Credit (60%) | 2 | 1.5 |

Note: Students eligible for credit for prior studies may not elect to receive the credit and complete one of the higher credit-point courses

COURSE STRUCTURE

In the Master of Information Technology, you'll complete:

Four foundation units³

- programming foundations in Java
- introduction to databases
- introduction to computer architecture and networks
- algorithms and programming foundations in Python.

Three core units

- project management
- software engineering
- IT research methods.

Three core elective units

From the approved electives list.

Two IT elective units

From any FIT-coded level 5 units, if you meet the prerequisites and there are no restrictions on enrolments.

Capstone project

One elective offered by us or another faculty.

AND

Industry experience

- industry experience studio project
- professional practice.

OR

A master's thesis

¹ In equivalent Monash University Grading Scale Terms, a 100% scale where 50% is a pass. Your prior qualification/s must be accredited to the equivalent Australian level specified in the eligibility requirements table.

² Even if you're eligible for a shorter course duration, you may elect to complete the longer duration.

³ Previous studies in IT may apply as credit for the foundation units.



To learn more about the Master of Information Technology, scan the QR code

handbook.monash.edu/2022/courses/C6001



CONFIDENT AND EXCITED ABOUT MY PROSPECTS

I chose the Master of Information Technology because I wanted to study further in a field that would broaden my career options.

In the course, many of the units focused on building in-demand skills and knowledge. The academics were also excellent, each with a lot of expertise to share. Thanks to my degree, I went from having no formal IT study to being confident and excited about my prospects in the industry."

PAUL FITZGERALD

Master of Information Technology

Clayton

1.5 or 2 years full-time
3 or 4 years part-time

February and July

Master of Cybersecurity

ALTERNATIVE EXITS

- Graduate Diploma of Cybersecurity
- Graduate Certificate of Cybersecurity

COURSE CODE: C6002 CRICOS CODE: 0100636

FAST FACT

'Cybersecurity Specialist' is a top emerging job in many countries, such as Australia, Singapore and more.

LinkedIn Jobs on the Rise Reports 2021

Master of CYBERSECURITY

The widespread adoption of mobiles and other pervasive devices has greatly increased security risks – and in turn, the need for cybersecurity specialists.

The Master of Cybersecurity develops your ability to design, implement, assess and manage cybersecurity systems to protect sensitive data and communication networks.

Because this course includes foundation units, you won't need to have a background in IT to complete it. What's more, in the final year of this degree, you'll cement everything you learn through either an industry experience project involving business mentors or a research initiative supported by a specialist.

With topics spanning blockchain, software security, cloud and network security, cryptography, IT forensics and privacy-enhancing technology, the Master of Cybersecurity will teach you the invaluable skills needed to identify and mitigate security weaknesses in IT systems.

If you choose research

The research component of this course involves training and a minor thesis, both of which you'll complete with the support of a recognised cybersecurity expert.

If you achieve high grades, you may be able to progress to further research study.

What you'll learn

After finishing this course, you should be able to:

- critically evaluate existing systems using the theories, techniques and software tools available in cybersecurity and blockchain, and propose solutions
- adapt new and emerging technologies through app development based on an understanding of key cybersecurity principles
- analyse and record core issues in building secure, effective systems
- competently design architectures for secure systems
- enhance existing systems with new technologies, learned through either a significant research thesis or research-based industry project
- examine issues and solutions in security and system design as they affect different communities
- demonstrate an understanding of ethical issues and norms in privacy and security.

Pathways open to you

Some exciting career pathways open to you through the Master of Cybersecurity include:

Blockchain specialist

As a blockchain specialist, the opportunities are endless. You could be responsible for creating the security and architecture of a blockchain system. Or you could find yourself developing decentralised apps – or even a brand-new cryptocurrency.

Cybercrime investigator

In this position, you'll investigate cybercrime through digital forensics and technology. Dynamic and exciting, you could be working on a hacked computer one day – and recovering lost files the next.

Digital forensics analyst

In the digital forensics analyst role, you'll blend computer science expertise with forensic skills to recover valuable information from computers and storage devices.

White hat hacker

Not all hackers are bad. In this role, you'll use your hacking skills to find holes in a system's security – with permission of course.

AI security specialist

Boost the manpower against growing cyberattacks through AI. As a specialist in this area, you'll find yourself harnessing the power of AI to support security operations and thwart potential threats.

Network security administrator

When you become a network security administrator, your work will revolve around protecting networks from unauthorised access. Part and parcel of this responsibility is performing risk assessments, training staff and monitoring network activity.



To learn more about the Master of Cybersecurity, scan the QR code.

handbook.monash.edu/2022/courses/C6002

ENTRY REQUIREMENTS

An Australian bachelor's degree, not necessarily in IT, *OR* an equivalent qualification approved by the faculty

An Australian bachelor's degree in a cognate discipline including computing, computer science, software engineering, computer systems, electrical, electronic or communication engineering, *OR* an equivalent qualification approved by the faculty

| Average requirements ¹ | Entry level | Duration (full-time in years) ² |
|-----------------------------------|-------------|--|
| Credit (60%) | 1 | 2 |
| | 2 | 1.5 |

Note: Students eligible for credit for prior studies may not elect to receive the credit and complete one of the higher credit-point courses

COURSE STRUCTURE

In the Master of Cybersecurity, you'll complete:

Four foundation units³

- programming foundations in Java
- introduction to databases
- introduction to computer architecture and networks
- algorithms and programming foundations in Python.

Four core units

- project management
- information and computer security
- software security
- IT research methods.

Four elective units

Choose from:

- network security
- advanced topics in security
- enterprise IT security – planning, operations and management
- blockchain
- IT forensics
- smart contracts
- cloud computing and security.

Capstone project

Industry experience

- industry experience studio project
- professional practice
- software engineering.

OR

A master's thesis

¹ In equivalent Monash University Grading Scale Terms, a 100% scale where 50% is a pass. Your prior qualification/s must be accredited to the equivalent Australian level specified in the eligibility requirements table.

² Even if you're eligible for a shorter course duration, you may elect to complete the longer duration.

³ Previous studies in IT may apply as credit for the foundation units



REALLY VALUABLE TO MY GROWTH

Due to continuous advancements in technology, cybersecurity is one of greatest challenges of our time.

My learning experience at Monash has been really valuable to my growth, with the course structure and units updated regularly based on gaps in industry. The faculty has also been really approachable, supportive and easy to work with.

Through the Monash Industry Training Initiative program, I was also able to secure an internship with Lactalis Australia, which allowed me to form connections within the local dairy industry. It also enhanced my leadership, communication, critical thinking and negotiation skills."

JITHU GEEVARGHEESE PANICKER

Master of Cybersecurity

- Clayton
- 1.5 or 2 years full-time
3 or 4 years part-time
- February and July
- Master of Business Information Systems

ALTERNATIVE EXITS

- Graduate Diploma of Business Information Systems
- Graduate Certificate of Business Information Systems

COURSE CODE: C6003 CRICOS CODE: 079053A



Accredited by the Australian Computing Society.

Master of BUSINESS INFORMATION SYSTEMS

Whether it's for day-to-day operations or strategic decision-making, information drives business. It's why systems that manage information are integral to modern organisations – as are experts in the field.

When you study this master's degree, you'll gain the expertise to design solutions for business information problems and offer strategic advice to enhance governance.

In this course, you'll explore the spectrum of IT functions within business. You'll also examine both the theoretical foundations of business information systems and their practical applications.

Begin by completing foundation units, ideal for those who don't come from a relevant background. Then expand your knowledge with a wide range of units to choose from.

In the last year of your course, work in a team on an industry project while learning directly from seasoned business professionals. Or you can choose to delve deep into a related topic of your choice through a fascinating research project – with the support of recognised IT expert.

What you'll learn

After you finish the Master of Business Information Systems, you should be equipped to:

- explain and discuss the major theoretical and professional issues related to business information systems
- deeply analyse a business problem, design an IT solution for it and measure performance
- engage in business information systems work to a standard aligned with senior professional practice
- demonstrate social, ethical and communication skills in an industry setting while managing ambiguity and complexity
- convey your research findings and the rationales behind your solutions to diverse stakeholders
- investigate information system problems with skills developed through independent research and a thesis, or by using research methods for academic or professional purposes.

Pathways open to you

Here are some specialist careers you could pursue with the Master of Business Information Systems:

Business analyst

In this role, you'll consult different stakeholders to identify their business problems. Then you'll gather, document and analyse their requirements to design a technical solution.

Information management specialist

Some of your duties as an information management specialist will involve creating information architectures, developing content hierarchies to facilitate workflow and analysing and organising databases for easy access.

Systems analyst

As a systems analyst, you'll identify areas for improvement within an organisation and design systems to bridge these gaps. You'll also train others to efficiently use the systems you develop.

IT manager

IT managers are mainly responsible for planning, coordinating and directing activities related to the computer and information systems of a company. They identify the needs of an organisation and develop technical solutions to meet them.



To learn more about the Master of Business Information Systems, scan the QR code.

handbook.monash.edu/2022/courses/C6003

ENTRY REQUIREMENTS

An Australian bachelor's degree, not necessarily in IT, *OR* an equivalent qualification approved by the faculty

An Australian bachelor's degree in a cognate discipline relating to information systems *OR* with an information systems major, with completed studies in:

- basic programming
- basic database theory
- systems analysis and design.

Plus an understanding of the major enterprise IT applications and their architectures, including enterprise/transaction processing systems and analytical/business intelligence systems, *OR* an equivalent qualification approved by the faculty

Note: Students eligible for credit for prior studies may not elect to receive the credit and complete one of the higher credit-point courses

| Average requirements ¹ | Entry level | Duration (full-time in years) ² |
|-----------------------------------|-------------|--|
| | 1 | 2 |
| Credit (60%) | 2 | 1.5 |

COURSE STRUCTURE

In the Master of Business Information Systems, you'll complete:

Four foundation units³

- introduction to business information systems
- systems analysis and design
- programming foundations in Java
- introduction to databases.

Four core units

- project management
- IT research methods.
- enterprise systems
- data in society.

AND

Four additional business information systems core units from an approved list.

Capstone project

One elective offered by us or another faculty.

AND

Industry experience

- industry experience studio project
- professional practice.

OR

A master's thesis

¹ In equivalent Monash University grading scale terms, a 100% scale where 50% is a pass. Your prior qualification/s must be accredited to the equivalent Australian level specified in the eligibility requirements table.

² Even if you're eligible for a shorter course duration, you may elect to complete the longer duration.

³ Previous studies in IT may apply as credit for the foundation units.



GAINED PRACTICAL SKILLS THAT ARE HIGHLY IN DEMAND

After working as a Vodafone Technical Analyst, I discovered that a big part of my job was dealing with clients, working on their requirements and understanding their business processes.

I chose Business Information Systems at Monash because it offered a perfect blend of all my requirements: system design, business process improvement, IT strategy, project management and digital transformation.

I've had a fantastic study experience at Monash and I love how the concepts are delivered practically. I've gained practical skills that are highly in demand, opening a door of endless possibilities for me."

HARSHITA SINGH

Master of Business Information Systems

- Clayton
- 1.5 or 2 years full-time
3 or 4 years part-time
- February, July and October
- Master of Artificial Intelligence

ALTERNATIVE EXITS

- Graduate Diploma of Artificial Intelligence
- Graduate Certificate of Artificial Intelligence

COURSE CODE: C6007 CRICOS CODE: 103000K



GUESS WHAT?

AI professionals are highly sought-after around the world – and this demand is only growing.

LinkedIn Jobs on the Rise Reports 2021

Master of ARTIFICIAL INTELLIGENCE

AI has the ability to transform every aspect of our lives – from performing complex surgery to informing business decisions. With the field advancing at a rapid pace, now more than ever the world needs experts in AI.

The Master of AI spans a comprehensive range of key topics, including deep learning, knowledge representation and reasoning, and modern optimisation techniques. It also delves deep into the ethical issues and best practices in AI.

In this degree, you'll learn directly from some of the greatest minds in the field – experts who stand at the forefront of AI technology.

After expanding your knowledge in this area, put what you know into practice through a research project supported by an internationally-recognised researcher. Or instead, you could opt to engage in an industry experience studio initiative.

No matter what you choose, this master's degree will equip you with a skillset that has global appeal.

What you'll learn

Through the Master of AI, you will learn how to:

- analyse the lifecycle of an AI and machine learning system in relation to the data and computing resources in an organisation
- apply contemporary theories and innovations in AI, machine learning and data analysis to common problems – with an emphasis on social good
- plan an AI-based project in a new area of application, using knowledge of AI system lifecycles and their requirements for data, computing resources and user modelling
- investigate, analyse, document and communicate the core criteria of developing AI capabilities in a global organisation
- demonstrate different ways to implement AI to a standard consistent with senior professional practice
- review and evaluate AI-based projects
- record and convey ethical and legal issues, privacy and security norms, and other key considerations when using and developing AI.

Pathways open to you

The Master of AI prepares you for many in-demand professions, including:

AI specialist

In this position, you'll create programs and infrastructures that help machines think and act without receiving explicit instructions – to enhance business outcomes and drive innovation.

AI researcher

Your role as an AI researcher will be to lead studies in AI, advancing the science and technology of intelligent machines, and creating greater real-world applications for this innovation.

Data analyst

As a data analyst, you'll gather data from various sources and translate it into trustworthy recommendations to improve an organisation's business decisions.

Robotics engineer

A day in the life of a robotics engineer involves planning, developing and testing robot applications. Other exciting functions in this role including debugging robotics programs, creating back-ups and designing end-of-arm tooling.

| ENTRY REQUIREMENTS | Average requirements ¹ | Entry level | Duration (full-time in years) ² |
|---|-----------------------------------|-------------|--|
| Bachelor's degree in any field, <i>OR</i> an equivalent qualification approved by the faculty | Credit (65%) | 1 | 2 |
| An Australian bachelor's degree in a related field ³ <i>OR</i> an equivalent qualification approved by the faculty | | 2 | 1.5 |

Note: Students eligible for credit for prior studies may not elect to receive the credit and complete one of the higher credit-point courses



To learn more about the Master of Artificial Intelligence, scan the QR code.

handbook.monash.edu/2022/courses/C6007

COURSE STRUCTURE

In the Master of Artificial Intelligence, you'll complete:

Four foundation units⁴

- programming foundations in Java
- algorithms and programming foundations in Python
- introduction to computer architecture and networks
- mathematical foundations for data science.

Four core units

- fundamentals of artificial intelligence
- IT research methods
- statistical data modelling.

Four additional AI units

Choose from:

- machine learning
- deep learning
- modelling discrete optimisation problems
- natural language processing
- human-centric AI
- advanced learning and cognitive systems
- solving discrete optimisation problems intelligent image and video analysis
- planning and automated reasoning
- multi-agent systems and collective behaviour.

Capstone project

One elective offered by us or another faculty.

AND

Industry experience

- industry experience studio project
- professional practice.

OR

A master's thesis



- Clayton
- 2 years full-time
4 years part-time
- January, March, May, July and October
- Master of Health Data Analytics
- Managed by the Faculty of Medicine, Nursing and Health Sciences

ALTERNATIVE EXITS

- Graduate Diploma of Health Data Analytics

COURSE CODE: M6036 CRICOS CODE: 106844H

Master of HEALTH DATA ANALYTICS

With rewarding careers flourishing, there is no better time to enter the burgeoning field of Health Data Analytics – the intersection of data, biostatistics and machine learning.

Whether it's quantifying the effectiveness of a new treatment for a pharmaceutical company or developing algorithms to help health services provide faster results, Health Data Analysts engage in exciting, impactful projects.

Taught by globally-renowned academics from the School of Public Health and Preventive Medicine, Faculty of Information Technology and Faculty of Business and Economics, this interdisciplinary course will equip you to conceptualise and execute innovative data analytics initiatives.

You'll walk away with a thorough grounding in key biostatistical and epidemiological principles, sound expertise in programming, data visualisation, statistical models and machine learning, an understanding of health systems and health service operations – and the ability to identify and analyse data sets using appropriate methods.

What you'll learn

After completing the Master of Health Data Analytics, you'll be equipped to:

- produce innovative and creative solutions for health data analysis problems with the application of appropriate research skills
- effectively communicate the outcomes of research to specialist and non-specialist audiences

Pathways open to you

Comprehensive foundational units, an in-demand specialisation and extensive application study mean you'll be empowered to transform your career and occupy an enviable position in the job market.

Graduates will find numerous employment opportunities across governments, health departments, research and academia – and in industries including private health insurers, public and private health service providers, and medical technology development.

- act as a responsible and effective global citizen who can engage in planetary health research, exhibit cross-cultural competence and demonstrate necessary ethical values related to data and health research
- apply major theories in health data analytics to incorporate health-related knowledge, critical analysis, expert judgement, autonomy, adaptability and responsibility into practice and address health problems at local, national or global levels
- demonstrate a sound understanding of epidemiological study design and the theory and application of key areas in biostatistics and machine learning relevant to professional practice
- handle a variety of analytical problems using traditional and modern statistical techniques and programs in a range of statistical software, ensuring reproducibility and quality control
- interpret and understand biostatistical and machine learning techniques to a level of depth and sophistication consistent with contemporary professional practice
- recognise the necessary sampling, data collection and technical methodologies for real-world problems and translate them into practical solutions
- wrangle and visualise data, fit models, make predictions and produce high-quality reports and presentations
- effectively and efficiently document and communicate ethical and legal issues, and norms in privacy and security, with regards to the practice of health data analytics.

ENTRY REQUIREMENTS

| | Average requirements ¹ | Entry level | Duration (full-time in years) |
|--|-----------------------------------|-------------|-------------------------------|
| Bachelor's degree in any field, <i>OR</i> an equivalent qualification approved by the faculty. | Credit (60%) | A | 2 |

¹ In equivalent Monash University grading scale terms, a 100% scale where 50% is a pass. Your prior qualifications must be accredited to the equivalent Australian level specified in the eligibility requirements table. In equivalent Monash University Grading Scale Terms, a 100% scale where 50% is a pass.

² Only available to a limited number of students based on WAM.

COURSE STRUCTURE

In the Master of Health Analytics, you'll complete:

Advanced expertise units

- introduction to health data analytics
- algorithms and programming foundations in python
- mathematical foundations of biostatistics
- introduction to data analysis
- introductory epidemiology
- principles of statistical inference
- regression of modelling for biostatistics 1 data wrangling.

Applied Health Data Analytics units

- human health and disease
- professional practice development.

PLUS one of the following units:

- applied data analysis
- introduction to machine learning.

AND one of the below capstone units:

- health data analytics practical project²
- big data in health.

Health Data Analytics specialisation

One of the following streams:

- Biostatistics: Three core units and one elective
- Machine learning: Two core units, one additional unit and one elective
- General: Two core units and two electives.

Capstone project

One elective offered by us or another faculty.


AND

Industry experience

- industry experience studio project
- professional practice.

OR

A master's thesis



To learn more about the Master of Health Data Analytics, scan the QR code.

handbook.monash.edu/2022/courses/M6036

² Only available to a limited number of students based on WAM.



Monash Online

2, 1.4 or 0.7 years part-time

January, March, May, July, August and October

Master of Applied Data Science

ALTERNATIVE EXITS

- Graduate Diploma of Applied Data Science
Graduate Certificate of Applied Data Science

COURSE CODE: C6011 CRICOS CODE: 106844H

Master of APPLIED DATA SCIENCE

Our world is dominated by big data. With almost every organisation hungry for information to enhance their decisions and outcomes – data science professionals are more sought-after than ever before.

The Master of Applied Data Science focuses on applied learning, developing your core data analytics skills and problem-solving capabilities to bridge the gap between knowledge and action.

Gain contemporary statistical data analytics techniques to effectively transform data into actionable solutions for real business problems. And grow your expertise in a wide variety of topics such as data exploration, data wrangling, big data processing, data management and its role and impact in society.

Finally, apply everything you've learned in a data analytics-focused general practice project that aims to help you develop a holistic understanding of data science.

What you'll learn

After completing the Master of Applied Data Science, you'll be equipped to:

- demonstrate a technical and practical understanding of data science theories
apply contemporary data exploration, data mining and machine learning tools and methods to real-world data science problems
investigate, analyse, document and communicate core issues and requirements in developing data analysis capabilities in a global organisation
document and communicate ethical and legal issues and norms in privacy and security, and other areas of community impact regarding the practice of data science
communicate data science-related tasks to various stakeholders perceptively and effectively.

Pathways open to you

Here are some careers you could pursue with a graduate degree in data science:

Data scientist

As a data scientist, you'll extract meaning from data using a range of tools and methods. You'll also spend a lot of time collecting information and ensuring it's reliable to act on.

Chief data officer

Your goal as a chief data officer will be to manage the organisation-wide collection, storage and analysis of data – to achieve your business' high-level mission.

Data architect

Your responsibilities as a data architect will revolve around drawing up blueprints for building, testing and maintaining databases.

Quantitative analyst

In a quantitative analyst role, you'll design and execute complex mathematical models to inform an organisation's financial decisions and reduce its risks.

Data analyst

Businesses collect huge amounts of data through a variety of functions. Your job as a data analyst will be to translate all the complex numbers into insights that will help your organisation make better business decisions.

Data engineer

As a data engineer, you'll be trusted with the development, testing and maintenance of architectures such as databases and processing systems.

ENTRY REQUIREMENTS

Table with 4 columns: Entry requirements, Average requirements, Entry level, Duration (full-time in years). Rows describe Australian bachelor's degree, Monash Graduate Certificate, and Monash Graduate Diploma.

Note: Students eligible for credit for prior studies may not elect to receive the credit and complete one of the higher credit-point courses

COURSE STRUCTURE

In the Master of Health Analytics, you'll complete:

Foundation units

- introduction to databases
algorithms and programming foundations in Python
mathematical foundations for data science and AI.

Core units

- introduction to data science
data wrangling
statistical data modelling.

Specialist units

- data exploration and visualisation
applied data analysis
machine learning
data processing for big data
data in society
data analysis for semi-structured data.

Applied Practice

- applied practice 1
applied practice 2.



To learn more about the Master of Applied Data Science, scan the QR code.

handbook.monash.edu/2022/courses/C6011



1 In equivalent Monash University grading scale terms, a 100% scale where 50% is a pass. Your prior qualifications must be accredited to the equivalent Australian level specified in the eligibility requirements table.

GRADUATE DIPLOMAS

Our graduate diplomas are shorter courses spanning rapidly-growing IT areas. They equip you with a deeper, more augmented understanding beyond the fundamentals.

Graduate Diploma of APPLIED DATA SCIENCE

The rise of big data has changed how organisations do business. With this graduate diploma, you'll be at the forefront of this exciting transformation.

This course will equip you to extract valuable insights from data to inform key business decisions.

How? By taking you deep into all areas of data science – including:

- statistical and exploratory analysis
- data formats and languages
- processing of massive data sets
- managing data and its effects on organisations and communities.

What you'll learn

Through the Graduate Diploma of Applied Data Science, you'll be equipped to:

- apply contemporary data exploration, data mining and machine learning tools and methods to real-world problems
- critically investigate and analyse the core issues and requirements in developing data analysis capabilities in global organisations
- apply knowledge of the data science lifecycle to projects in new application areas aligned with professional best practice
- document ethical and legal issues, norms in privacy and other areas of community impact regarding the practice of data science
- communicate data science-related tasks to various stakeholders perceptively and effectively.

Specialist pathways open to you

Specialist roles you could move into through this diploma include:

Data scientist

As a data scientist, you'll analyse and interpret massive data streams to draw out meaning that will underpin key business strategies. Key tasks in this process include cleaning, munging and visualising data.

Data engineer

Your responsibilities as a data engineer will be to compile, install and scale database systems. You'll also have the important duty of putting disaster recovery systems in place to safeguard your organisation.

ENTRY REQUIREMENTS

Bachelor's degree (or equivalent) in a related field, *OR*

Bachelor's degree (or equivalent) and two years' professional work experience in programming or databases²

Average requirements¹

Credit (60%)



To learn more about the Graduate Diploma of Data Science, scan the QR code.

handbook.monash.edu/2022/courses/C5003

Monash Online

1.4 years part-time

January, March, May, July, August and October

(Six teaching periods per year, students take one unit each teaching period - equivalent to half-time workload)

Graduate Diploma of Applied Data Science

ALTERNATIVE EXITS

Graduate Certificate of Applied Data Science

COURSE CODE: C5003

This course is not available for onshore study in Australia if you're an international student who holds an Australian student visa. However, if you hold an Australian visa within a different, eligible category, or you study off-campus by distance learning (where available) and live in another country, you may be eligible for this course.

FLEXIBLE AND CONVENIENT

This diploma is 100% online and requires you to complete one unit every two months.

Enjoy the flexibility you need to balance study, work and family.

¹ In equivalent Monash University Grading Scale Terms, a 100% scale where 50% is a pass.
² Related fields include IT, business (with maths), economics, econometrics, engineering or science with completed studies in either maths, programming or databases.

Monash Online

1.4 or 0.7 years part-time

January, March, May, July, August and October

(Six teaching periods per year, students take one unit each teaching period – equivalent to half-time workload)

Graduate Diploma of Learning Analytics

COURSE CODE: C5010

Graduate Diploma of LEARNING ANALYTICS

A comprehensive online course, this graduate diploma focuses on developing advanced knowledge and skills in learning analytics – shaping you into a future leader of this fast-growing field.

You'll learn the basics of learning analytics and data science, and then expand to advanced theory. You'll also deep dive into different tools and techniques of measurements in a variety of settings.

Students from all backgrounds are welcome as the course takes a unique pedagogical approach that personalises the learning experience.

What you'll learn

After completing this diploma, you'll be able to:

- analyse and review theories and processes from the field of learning analytics

- apply problem-solving skills and critically appraise the effectiveness of advanced data science techniques and methods, and state-of-the-art design practices, in learning analytics across different contexts
- create and evaluate the use of learning analytics based on relevant theoretical and conceptual frameworks from education and the learning sciences
- apply principles and evaluate the effectiveness of implementing analytics in complex organisational settings
- evaluate and respond to social, ethical, and privacy protection issues arising from the application of learning analytics across different settings
- communicate effectively with stakeholders across different settings in which learning analytics is used.

Pathways open to you

Offering a more in-depth understanding of learning analytics, this diploma paves the way to careers in educational technology, higher education, schools, government and other related fields.

Specifically, this course is ideal for those wanting to work at the intersection of data science and education in roles such as chief learning officer, educational designer, director of learning analytics and more. It is also useful for human resources staff who want to enhance professional development in their organisations.

| ENTRY REQUIREMENTS | Average requirements ¹ | Entry level | Duration (part-time in years) |
|---|-----------------------------------|-------------|-------------------------------|
| An Australian bachelor's degree in a non-cognate discipline, <i>OR</i> an equivalent qualification approved by the faculty. | Credit (60%) | 1 | 1.4 |
| A Monash University Graduate Certificate of Learning Analytics | | 2 | 0.7 |



To learn more about the Graduate Diploma of Learning Analytics, scan the QR code.

handbook.monash.edu/2022/courses/C5010

¹ In equivalent Monash University grading scale terms, a 100% scale where 50% is a pass. Your prior qualifications must be accredited to the equivalent Australian level specified in the eligibility requirements table.

Graduate Diploma of COMPUTER SCIENCE

Let this diploma expand your computer science knowledge and then immerse you in artificial intelligence, cybersecurity or software engineering – all rapidly-growing areas around the world.

Switch to an in-demand profession and future-proof your career with the latest expertise.

This flexible online course will equip you with skills to use emerging technologies and address challenges that many industries currently face.

First, build on your existing computer science expertise in areas such as Java programming, algorithms and databases, and architecture and networks. You'll also be introduced to artificial intelligence, cybersecurity and software development.

After creating a strong foundation, you'll specialise in one of the three disciplines above to gain graduate-level expertise that will enable you to seize greater, more diverse career opportunities and create a bigger impact in the workforce.

If you're eager to expand on your qualifications, successfully completing this diploma means you could also fast-track the Master of Computer Science.

What you'll learn

In this course, you'll learn how to:

- analyse, critically review, synthesise, evaluate and leverage computer science theories and techniques to solve modern challenges
- apply problem-solving skills and theoretical knowledge to design and construct innovative solutions in artificial intelligence, cybersecurity or software engineering
- assess and use industry-standard tools and techniques to build reliable software systems
- navigate ethical, legal and social issues arising from new technologies
- communicate and collaborate effectively with stakeholders across a variety of industries such as retail, finance, entertainment, IT and government.

Specialist pathways open to you

Completing this diploma puts you in a favourable position to pursue in-demand roles such as:

Software engineer

Use your knowledge of engineering principles and computer science to build different software products such as middleware, operating systems and applications.

Information security analyst

Analyse, assess and investigate vulnerabilities in an organisation's IT infrastructure to protect important information and systems from cyber threats.

Data analyst

Collect, process and perform statistical analyses on large datasets to uncover valuable insights in data, inform key decision-making and help achieve strategic business goals.

Artificial intelligence specialist

Leverage your expertise with AI technologies and platforms to build services, conduct image recognition, drive natural language processing and more to creatively solve pressing organisational problems.

| ENTRY REQUIREMENTS | Average requirements ¹ | Entry level | Duration (part-time in years) ² |
|--|-----------------------------------|----------------|--|
| Bachelor's degree (or equivalent) in a related field ³ , <i>OR</i> equivalent qualification approved by the faculty | Credit (60%) | 1 ⁴ | 1.4 |
| A Monash University Graduate Certificate of Computer Science | | 2 | 0.7 |



To learn more about the Graduate Diploma of Computer Science, scan the QR code.

handbook.monash.edu/2022/courses/C5008

Monash Online

1.4 or 0.7 years part-time

January, March, May, July, August and October

(Six teaching periods per year, students take one unit each teaching period – equivalent to half-time workload)

Graduate Diploma of Computer Science

ALTERNATIVE EXITS

Graduate Certificate of Computer Science

COURSE CODE: C5008

ENJOY ONLINE LEARNING

The Graduate Diploma of Computer Science is delivered entirely online so it's easier for you to gain new skills while balancing life's other commitments.

¹ In equivalent Monash University grading scale terms, a 100% scale where 50% is a pass. Your prior qualifications must be accredited to the equivalent Australian level specified in the eligibility requirements table.

² Even if you're eligible for a shorter course duration, you may elect to complete the longer duration.

³ Related fields in any degree in a STEM discipline, or degrees that have mathematics, business analytics, scientific or critical thinking, or problem-solving.

⁴ For entry level 1, to undertake the artificial intelligence specialisation you must have knowledge of calculus and linear algebra at the level of undergraduate physical science or engineering.

GRADUATE CERTIFICATES

We offer a range of graduate certificates that cover key disciplines in IT. They're a great way to enhance your skills and qualifications and prospects in less time.

Graduate Certificate of APPLIED DATA SCIENCE

This graduate certificate prepares you for an entry-level career in data science, providing you with the fundamental skills to deal effectively with the data lifecycle.

The course gives you an introduction to data science and topics in statistical and exploratory analysis, data wrangling and your choice of elective.

What you'll learn

After completing the Graduate Certificate of Applied Data Science, you'll be equipped to:

- apply contemporary data exploration, data mining and machine learning tools and methods to real-world data science problems

- investigate and analyse the core issues and requirements critically in developing data analysis capability in a global organisation
- document ethical and legal issues, norms in privacy, and other areas of community impact regarding the practice of data science
- communicate data science-related tasks to various stakeholders perceptively and effectively.

Pathways open to you

This course will equip you for an entry-level data science career. It is also a pathway into the corresponding master's degree.

ENTRY REQUIREMENTS

An Australian bachelor's degree in a relevant discipline, *OR* an equivalent qualification approved by the faculty.

Average requirements¹ Duration (Part-time in years)

Credit (60%) 0.7

Monash Online

0.7 years part-time

January, March, May, July, August and October

(Six teaching periods per year, students take one unit each teaching period – equivalent to half-time workload)

Graduate Certificate of Applied Data Science

COURSE CODE: C4012

¹ In equivalent Monash University grading scale terms, a 100% scale where 50% is a pass. Your prior qualifications must be accredited to the equivalent Australian level specified in the eligibility requirements table. In equivalent Monash University Grading Scale Terms, a 100% scale where 50% is a pass.

Graduate Certificate of BUSINESS INFORMATION SYSTEMS

This course is designed to enhance the career prospects of graduates interested in pursuing business-focused IT areas, even if they don't have a background in business information systems.

By learning fundamental IT concepts and taking a comprehensive delve into your choice of specialist business information units, you'll gain knowledge and skills to effectively navigate the ever-changing world of business information systems.

Upon graduation, you'll also open doors to roles in areas such as IT management, business information systems and knowledge management.

What you'll learn

After completing this certificate, you'll be able to:

- discuss the major theoretical and professional issues in business information systems
- identify business information system issues, design IT-driven solutions for them and assess their effectiveness
- demonstrate professional social, ethical and communication skills in an industry setting
- communicate results and solutions to a range of stakeholders to ensure operational efficiencies.

Pathways open to you

This course will equip you for an entry-level career in business information systems. It is also a pathway into the corresponding master's degree.

ENTRY REQUIREMENTS

An Australian bachelor's degree in any field, *OR* equivalent qualification approved by the faculty.

Average requirements¹ Duration (Full-time in years)

Credit (60%) 0.5

Clayton

0.5 years full-time
1 year part-time

February and July

Graduate Certificate of Business Information Systems

COURSE CODE: C4005



To learn more about the Graduate Certificate of Business Information Systems, scan the QR code.

handbook.monash.edu/2022/courses/C4005

¹ In equivalent Monash University grading scale terms, a 100% scale where 50% is a pass. Your prior qualifications must be accredited to the equivalent Australian level specified in the eligibility requirements table. In equivalent Monash University Grading Scale Terms, a 100% scale where 50% is a pass.

Monash Online

0.7 years part-time

January, March, May, July, August and October

(Six teaching periods per year, students take one unit each teaching period – equivalent to half-time workload)

Graduate Certificate of Computer Science

COURSE CODE: C4009

To learn more about the Graduate Certificate of Computer Science, scan the QR code.

handbook.monash.edu/2022/courses/C4009

1 In equivalent Monash University grading scale terms, a 100% scale where 50% is a pass. Your prior qualifications must be accredited to the equivalent Australian level specified in the eligibility requirements table.

Graduate Certificate of COMPUTER SCIENCE

This manageable six-month course is delivered 100% online and designed to enhance the career prospects of graduates who don't have a background in a related field or IT.

Develop a graduate-level understanding of computer science, be ready to ride the latest technological trends and enjoy an abundance of career opportunities across a wide range of industries and countries.

The Graduate Certificate of Computer Science focuses on enhancing your professional experience and building your core knowledge of modern practices, principles, tools and techniques. Through electives, it also introduces you to artificial intelligence, software engineering or cybersecurity – disciplines that lie at the heart of many industries.

What you'll learn

Emerging from this certificate, you'll be able to effectively handle technological challenges in various domains by:

- analysing and reviewing theories and techniques in computer science
- applying problem-solving skills backed by theoretical knowledge to design and implement innovative solutions
- assessing and using industry-standard tools and techniques for building software systems
- critically evaluating and addressing ethical, legal and social issues around the use of technology
- communicating and partnering with stakeholders in the IT field and beyond.

Where this certificate can take you

The Graduate Certificate of Computer Science will augment your previous experience and complement your current skill set so you're equipped to take on a wider range of roles in the workforce.

ENTRY REQUIREMENTS

Bachelor's degree, *OR* equivalent qualification or experience approved by the faculty.

Average requirements¹ Duration (Part-time in years)

Credit (60%) 0.7

Graduate Certificate of CYBERSECURITY

A short six-month course, the Graduate Certificate of Cybersecurity gives you a graduate-level understanding of cybersecurity – building on essential knowledge and skills that equip you for excellent career opportunities after graduation.

The course is designed to augment your professional capabilities and build your proficiency in the fundamental tools and techniques of cybersecurity. Through electives, you'll also have the opportunity to delve into a specialist area.

What you'll learn

Emerging from this certificate, you'll be able to:

- examine existing systems using contemporary cybersecurity theories, techniques and software tools
- identify key factors in building secure systems, including strengths and weaknesses, and propose solutions
- assess security and system design issues and solutions as they affect general and niche communities
- analyse the implications of privacy and security ethical issues.

Pathways open to you

This course will equip you for an entry-level cybersecurity career. It is also a pathway into the corresponding master's degree.

ENTRY REQUIREMENTS

An Australian bachelor's degree in a relevant discipline² with completed studies in programming and computer architecture, *OR* an equivalent qualification approved by the faculty.

Average requirements¹ Duration (Full-time in years)

Credit (60%) 0.5

1 In equivalent Monash University grading scale terms, a 100% scale where 50% is a pass. Your prior qualifications must be accredited to the equivalent Australian level specified in the eligibility requirements table. In equivalent Monash University Grading Scale Terms, a 100% scale where 50% is a pass.

2 Relating to an IT, Engineering or Science degree.

Graduate Certificate of INFORMATION TECHNOLOGY

The ubiquitous influence of IT in today's job market has driven a surge in many career opportunities, and this certificate prepares you to pursue them.

The Graduate Certificate of Information Technology ensures you're ready to tackle IT-related issues. Learn the tools and techniques of a graduate with a crash course in software engineering, project management, programming and more.

What you'll learn

Emerging from this certificate, you'll be able to:

- problem-solve and apply sound theoretical knowledge to design and deliver innovative IT solutions
- critically analyse, review and synthesis IT theories and techniques
- effectively communicate with stakeholders within and outside IT
- evaluate, document and communicate ethical, legal and social issues around the use of IT.

Pathways open to you

This course will equip you for an entry-level IT career. It is also a pathway into the corresponding master's degree.

ENTRY REQUIREMENTS

An Australian bachelor's degree in a relevant discipline² with completed studies in programming and databases, *OR* an equivalent qualification approved by the faculty.

Average requirements¹ Duration (Full-time in years)

Credit (60%) 0.5

Clayton

0.5 years full-time
1 year part-time

January and July

Graduate Certificate of Information Technology

COURSE CODE: C4003

To learn more about the Graduate Certificate of Information Technology, scan the QR code.

handbook.monash.edu/2022/courses/C4003

1 In equivalent Monash University grading scale terms, a 100% scale where 50% is a pass. Your prior qualifications must be accredited to the equivalent Australian level specified in the eligibility requirements table. In equivalent Monash University Grading Scale Terms, a 100% scale where 50% is a pass.
2 Relating to an IT, Engineering or Science degree.

Graduate Certificate of LEARNING ANALYTICS

Big data holds unprecedented amounts of untapped insights about learners and educational contexts. Learning analytics aims to unlock the potential of this information to advance human learning.

A swift seven-month course, the Graduate Diploma of Learning Analytics is delivered 100% online and introduces you to the basics of learning analytics and data science.

Students from all backgrounds are welcome as the course takes a unique pedagogical approach that personalises the learning experience.

What you'll learn

Emerging from this certificate, you'll be able to:

- analyse and review learning analytics theories and processes
- critically appraise the effectiveness of data science techniques in learning analytics
- critically analyse state-of-the-art design practices in learning analytics across different contexts

- create and evaluate the use of learning analytics based on relevant theoretical and conceptual frameworks from education and the learning sciences
- critically evaluate, document and communicate ethical, privacy and social issues affecting the use of learning analytics
- communicate effectively with stakeholders across different settings in which learning analytics is used.

Pathways open to you

This course equips you to pursue an entry-level career in fields such as educational technology, higher education, schools and government.

It is also ideal for those wanting to design learning programs, analyse data to enhance education, uplift professional development in companies and other related functions.

ENTRY REQUIREMENTS

An Australian bachelor's degree in any field *OR* an equivalent qualification approved by the faculty.

Average requirements¹ Duration (Part-time in years)

Credit (60%) 0.7

Monash Online

0.7 years part-time

January, March, May, July, August and October

(Six teaching periods per year, students take one unit each teaching period – equivalent to half-time workload)

Graduate Certificate of Learning Analytics

COURSE CODE: C4011

To learn more about the Graduate Certificate of Learning Analytics, scan the QR code.

handbook.monash.edu/2022/courses/C4011

1 In equivalent Monash University grading scale terms, a 100% scale where 50% is a pass. Your prior qualifications must be accredited to the equivalent Australian level specified in the eligibility requirements table. In equivalent Monash University Grading Scale Terms, a 100% scale where 50% is a pass.

ENGLISH LANGUAGE ENTRY REQUIREMENTS

You can meet the English language entry requirements with one of the following:

1. VICTORIAN CERTIFICATE OF EDUCATION (VCE) OR BY COMPLETING THE FINAL YEAR OF HIGH SCHOOL

2. TERTIARY AND POST-SECONDARY STUDIES

Study at an institution where English is the language of instruction and assessment.

Complete study equivalent to 24 Monash credit points (six months of full-time study) or more at Australian VET diploma level or higher, or at an undergraduate award level or higher.

Note: Time limits of three years for undergraduate and two years for graduate apply.

3. ENGLISH LANGUAGE PROFICIENCY TEST

Achieve the results listed in one of the following English language tests:

| Test | Results required |
|------------------------------------|---|
| IELTS (Academic) | <ul style="list-style-type: none">An overall score of 6.5 OR higherNo individual band scores less than 6.0 |
| TOEFL paper-based | <ul style="list-style-type: none">A minimum test score of 550A Test of Written English (TWE) score of 4.5 OR higher |
| TOEFL Internet-based | <ul style="list-style-type: none">A minimum test score of 79An overall score of 21 or higher in the written sectionScores of no less than 12 in listening, 13 in reading and 18 in speaking |
| Pearson Test of English (Academic) | <ul style="list-style-type: none">An overall score of 58No communicative skills score below 50 |
| The Cambridge English | <ul style="list-style-type: none">Proficiency (CPE): An overall score of 176 with no skill score below 169, ORAdvanced (CAE): An overall score of 176 with no skill score below 169 |

4. ENGLISH LANGUAGE BRIDGING PROGRAM

If your English test does not meet the Monash University course's English requirements for direct entry, Monash University English Language Centre offers Monash English Bridging (MEB).

Upon successful completion of MEB¹, students will have met the Monash University English entry requirements. Some graduate courses, however, don't accept MEB.

¹ The requirements for successful completion of MEB Standard, MEB Advanced and MEB Advanced plus are outlined at monashcollege.edu.au/courses/english/monash-english-bridging.

HOW TO APPLY

Domestic students

You're considered a domestic student if you're an Australian or New Zealand citizen, or Australian permanent resident (including a holder of an Australian permanent humanitarian visa).

To apply for an IT graduate course or learn more about the process, scan the code at the bottom of this page.

International students

Before you apply, please make sure you meet all the Monash minimum entry requirements – including academic, English language and selection criteria. Your application must include original or certified academic documentation, including academic transcripts, graduation certificates and grading scales (indicating the pass mark and graduation requirements if applicable).

International students can apply online or through a Monash agent.



Through the QR code you can learn about application open and close dates, and apply for a course.

monash.edu/it/future-students/how-to-apply

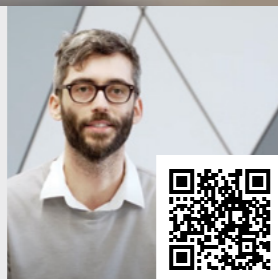
IT RESEARCH AT MONASH

We're home to researchers who stand at the forefront of innovation in data science, cybersecurity, artificial intelligence and other IT fields. As a Monash graduate researcher, you'll work with the brightest minds to enhance your research potential – and shape the future of our world.

Meet PhD student Sam Reinders. Discover his research for social good.

Scan the QR code to find out how Sam is developing interactive 3D models embedded with conversational agents to help the vision impaired learn.

youtu.be/zDj4Ng5q1g4



Pathways into research degrees

Don't meet the entry requirements for a research degree? Then explore our other coursework programs that can act as alternative pathways.

These courses include an option to undertake a significant research component, providing another route for admission – subject to academic performance.



For more information, scan the QR code.

monash.edu/it/future-students/graduate



Apply for a PhD – at any time

Our Supervisor Connect portal lets you explore cutting-edge initiatives and find a leading researcher to oversee your project. With scholarship opportunities always available, apply at any time – and join our world-class research community.

supervisorconnect.it.monash.edu

English language pathway and conditional and packaged offers

Normally, all graduate research applicants must meet Monash University's English Language Proficiency (ELP) requirements.

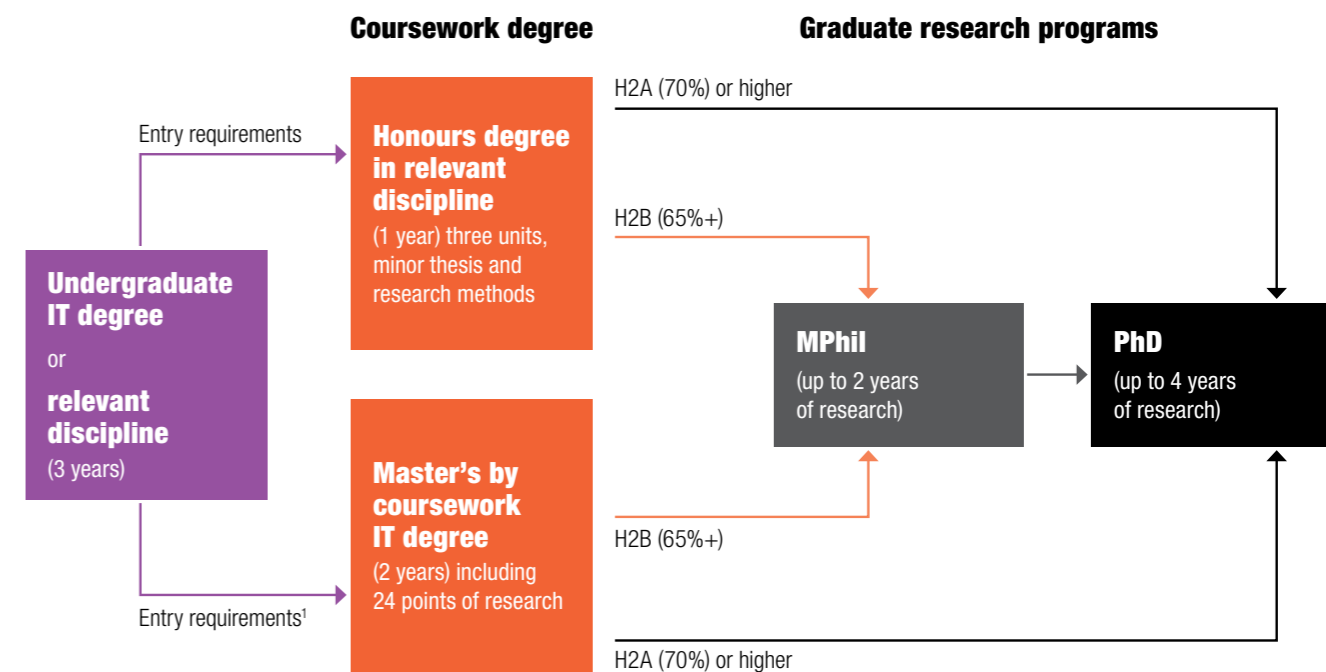
If you don't meet the ELP requirements but demonstrate a capacity to conduct significant research, we may make a conditional offer. This requires you to undertake the Monash English Bridging program for graduate degrees and higher degrees of research at Monash College.



For more information, scan the QR code.

monash.edu/it/research/graduate-research/pathways-and-conditional-offers

STANDARD GRADUATE RESEARCH DEGREE PATHWAYS



Durations shown above are based on a full-time study load.

¹ Course duration varies depending on specific qualification.

GRADUATE RESEARCH PROGRAMS

Want to join a world-class research community? Looking for a leading specialist to oversee your project? With intakes open all year long, our graduate research programs allow you to delve deep into an IT area of interest.

Doctor of Philosophy (PhD)

This PhD is a supervised program involving a major research project on a topic of your interest. To be awarded this degree, external examiners must believe your thesis:

- is an original contribution to the discipline you choose
- demonstrates your ability to perform independent research.

As part of this PhD, you'll undertake coursework under the Monash Doctoral Program. Supervised by at least two highly-recognised researchers, you'll break new ground in a specialist area while expanding your research capabilities.

You can also choose to undertake a PhD by Exegesis and Project Demonstration or Exhibition as an alternate type of PhD examination. This is on top of the existing examination by standard thesis.

Master of Philosophy (MPhil)

In the MPhil, you'll be supervised by at least two leading academics as you complete a major research project on a topic of your choice.

To earn this degree, external examiners must declare that your thesis:

- significantly contributes to knowledge in your chosen discipline
- demonstrates your ability to perform independent research.

Unlike a PhD, your MPhil thesis doesn't need to provide new knowledge to the discipline. However, you are expected to apply, clarify, critique or interpret existing knowledge as your contribution.

The length of your thesis should typically be fewer than 35,000 words.

PhD by practice-based research and exegesis

In this innovative PhD, you'll present a substantial amount of research through an immersive, interactive demonstration or exhibition that engages one or more of the senses.

Your research will typically be interdisciplinary, linking IT with another field such as health and medicine, urban planning, cultural heritage or design. Areas like creative robotics, 3D visualisation, simulation and animation, interactive media, wearable technologies and games are also suitable.

RESEARCH STUDENT ENQUIRIES

T: +61 9902 0945

E: fit-graduate.research@monash.edu



To learn more about our research degrees, scan the QR code below.

monash.edu/it/research/graduate-research



A LIFETIME ACHIEVEMENT

I chose Monash for graduate research because its collaborative, cross-disciplinary projects are creating real impact in our world.

The foundation courses and workshops played a big role in advancing my understanding and skills as a researcher.

And thanks to my standout supervisors, academics, peer groups and academic language specialist, all the support I needed was there – I only had to ask.

My PhD experience has been a lifetime achievement and will definitely contribute to my future prospects.”

ANINDITA SARKER

PhD student and 3MT® finalist



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**DISCOVER MORE TO CHANGE
MORE AT OUR 2022 EVENTS**

Monash Information Evenings

March to September

We'll be in your local area to answer your questions on everything you need to know about Monash, including our courses, accommodation, scholarships and student life.

monash.edu/information-evenings

Inside Monash

March to August

Get the inside story from our faculties about what it's really like to study at Monash.

monash.edu/inside-monash

Open Day

Open Day is your chance to experience what life at Monash is all about! You'll be able to explore our campuses, meet current students and staff, find out more about our courses, and get a taste of everything Monash has to offer.

monash.edu/open-day



MONASH UNIVERSITY

monash.edu

FIND A COURSE

monash.edu/study

FUTURE STUDENT ENQUIRIES

**Australian citizens, permanent residents
and New Zealand citizens**

monash.edu/study/contact

International students

T Australia freecall: 1800 MONASH (666 274)

T +61 3 9903 4788 (outside Australia)

E study@monash.edu

WeChat: MonashUniAus

Youku: Monash 蒙纳士大学

