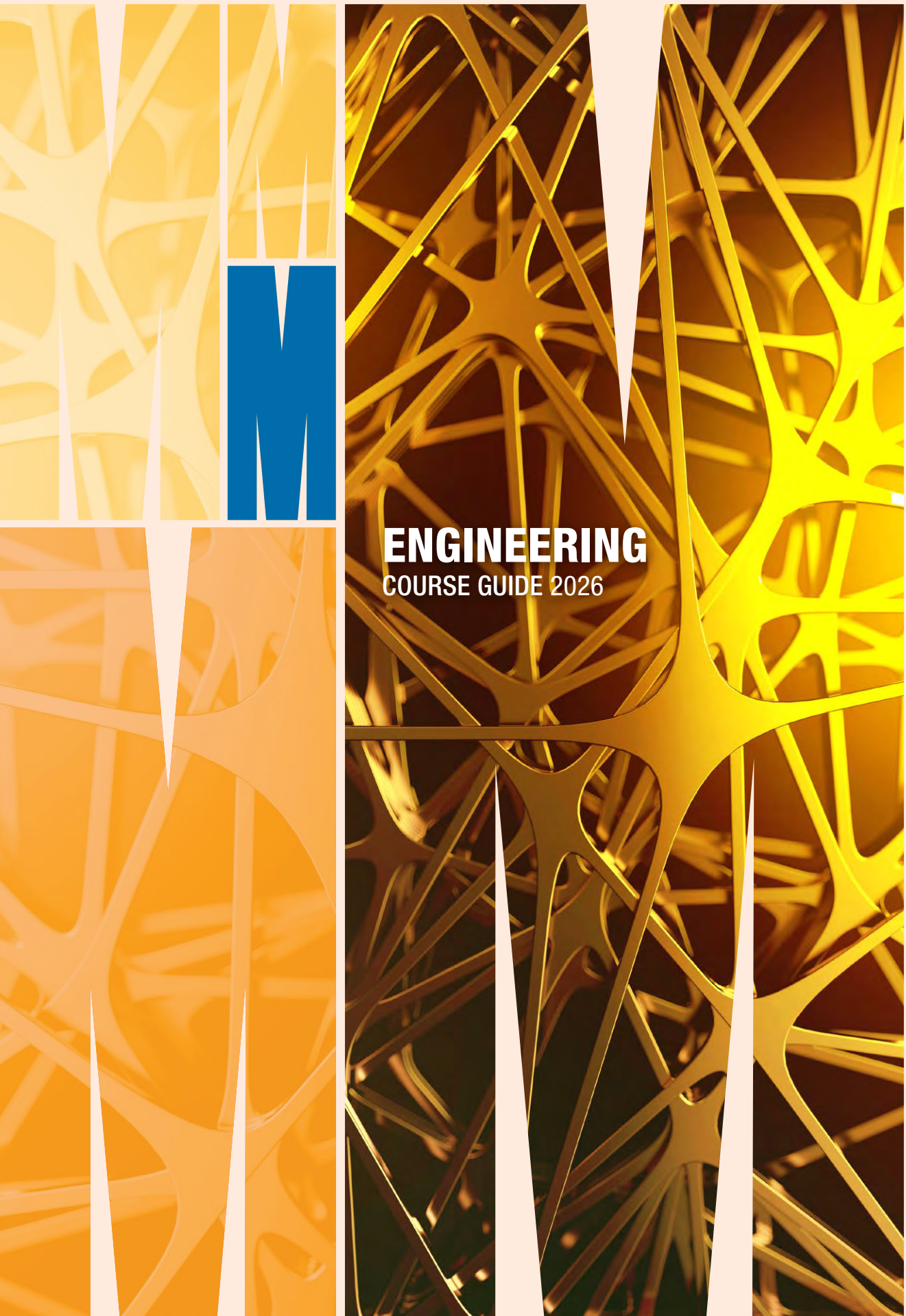
MONASH University

MALAYSIA



ENGINEERING

COURSE GUIDE 2026

DESIGN THE FUTURE

Become part of a world-class team of engineers, driven by the passion and commitment to deliver sustainable solutions for today's global challenges – including climate, energy, transportation, water, health and communications.

Whether you aspire to change the world we live in, become a top CEO or dream of inventing the next big thing, at Monash you can shoot for the moon.

Kick-start your future at a global top 50 university and graduate ready for a successful career.

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MONASH IS RANKED

#36
QS WORLD UNIVERSITY RANKINGS 2026

#29
IN THE WORLD FOR MATERIALS SCIENCES

#42
IN THE WORLD FOR CIVIL AND STRUCTURAL ENGINEERING

RATED TIER 5 (EXCELLENT)
IN D-SETARA ENGINEERING BY THE MINISTRY OF EDUCATION MALAYSIA

#49
IN THE WORLD FOR CHEMICAL ENGINEERING

#78
IN THE WORLD FOR ELECTRICAL AND ELECTRONIC ENGINEERING

#80
IN THE WORLD FOR MECHANICAL ENGINEERING

QS World University Rankings by Subject 2025

YOUR PATHWAY TO SUCCESS

Choose Monash Engineering and start engineering a successful future.

1 GET QUALIFIED

Our world class team of engineers will immerse you in engineering from day one. Become a fully accredited professional engineer in this four-year honours degree tailored to your future.

- Common first year – giving you time to choose a specialisation
- 8 engineering specialisations
- Scholarships, awards, fee waivers and bursaries
- Professional accreditation.

2 FEED YOUR KNOWLEDGE, FUEL YOUR PASSION

Find your voice and your passion as you explore what's possible through student teams, volunteer opportunities, global exchange and research programs.

- Study abroad at one of our 140+ partner universities
- Volunteer for impactful projects
- Join design competitions
- Mentor program
- Get a taste for research.

3 SECURE YOUR FUTURE

Connect to our network of industry partners and development programs to secure your dream career.

- Work experience – internships with industry partners
- Leadership program
- Connections to our vast alumni network
- Career support and training.

Be part of a global community, contribute to a better future.

monash.edu.my/change-it

ENGINEER YOUR DEGREE

At Monash, with an engineering degree that gives you maximum choice and flexibility.

FOUR-YEAR DEGREE TAILORED TO YOUR FUTURE

QUALITY EDUCATION

As a Monash student at our Malaysian campus, you'll receive quality education that is on par with your peers in Australia. Our undergraduate degrees in engineering are identical to those offered at the Clayton campus – you'll have access to the same resources, benefit from the same global connections, and receive the same prestigious degree.

START WITH A COMMON FIRST YEAR

Be immersed in engineering from day one. The Bachelor of Engineering (Honours) kicks off with a common first year, where you'll gain a better understanding of scientific and design fundamentals, whilst discovering which specialisation best aligns with your goals and interests.

EIGHT SPECIALISATIONS

In your second year, you will select your specialisation, enabling you to focus on your area of interest.

MINORS

Use your elective slots to complete a minor from another engineering discipline or emerging field in your third year, and expand your career opportunities. Choose from these exciting areas:

- Artificial intelligence in engineering
- Decarbonisation and net zero
- Intelligent manufacturing
- Electric vehicle technology
- Internet of Things
- Semiconductor
- Sensory systems in Industry 4.0
- Sustainable energy transition.

PREPARE FOR EMERGING AREAS

With technology progressing faster than ever, engineers are constantly adapting to new capabilities and opportunities to design, build and create solutions for 21st-century challenges. Prepare yourself with a strong foundation in key areas of growth, such as renewable energy, nano-materials, biodegradable structures, solid-state lighting, low-carbon product design, and bio-mimic robots, so that you can hit the ground running.

INDUSTRY EXPERIENCE

Graduate job-ready with professional development and industry experience that is built into the course.

QUALIFIED AND ACCREDITED

Recognised by Engineers Australia[1] and the Washington Accord, our graduates are accredited to work in Australia and other countries including Canada, China, India, Japan, Singapore, UK and USA.

OUR ENGINEERING DEGREES ARE ALSO ACCREDITED BY:

- Engineering Accreditation Council Malaysia[2]
- Australian Computer Society[3].

1 Undergraduate engineering degrees only.
2 All undergraduate engineering degrees except the Bachelor of Software Engineering (Honours).
3 Bachelor of Software Engineering (Honours) only

EXPAND YOUR EXPERTISE

INDUSTRY PLACEMENTS

Apply your knowledge and skills in the real world.

STUDY ABROAD

- Intercampus transfer – Monash's Global Intercampus Program lets you spend a semester at one of our Australia campuses with no added costs to your regular course fees.
- Student exchange – Choose from more than 140 partner universities around the world, and graduate with a degree that's studied in different continents.

STUDENT TEAMS

Join one of our student teams, and compete in local and international competitions whilst working alongside team sponsors and industry partners.

EXPLORE RESEARCH

Take a deeper dive to gain research experience via final-year projects and research programs.

WITH ALL THE SUPPORT YOU NEED. REALISE YOUR FULL POTENTIAL.

WORLD-CLASS FACILITIES

Thrive in our dynamic and interactive learning spaces. Engineering is a hands-on discipline where learning goes beyond the classroom, so it's important to choose a university with the best facilities to support your studies. At Monash, you'll have access to world-class engineering facilities supporting research in micro and nanodevices, intelligent lighting, robotics, and more.

LEARN FROM THE BEST

Learn the latest engineering concepts from professors and lecturers who are leaders in their fields. Your labs and hands-on workshops are also supported by tutors with recent experience as students themselves.

GENEROUS SCHOLARSHIPS

Monash celebrates academic excellence and diversity, and we offer a range of scholarships and awards to help ensure money and circumstances aren't barriers to you getting a world-leading engineering education.

monash.edu.my/scholarships

MENTORING PROGRAMS

- Peer mentors for all first-year students – Hello Buddies is a voluntary peer mentoring program that pairs you, a new first-year student, with a senior. Your Buddy will provide you with support, guidance and advice to help you adjust to your new academic and social life. Return the favour later and become a Buddy yourself – you'll be able to develop your social, communication and leadership skills when you do.
- Academic mentors – Need expert assistance in coping with the rigours of engineering study? The Mentor-Mentee program matches you with an academic, but you can also initiate it on your own through specified mentor-mentee coordinators.
- Peer Assisted Study Sessions (PASS) – Join guided study groups run by student leaders with a strong academic track record, and get support with difficult units.

VIBRANT AND INCLUSIVE CAMPUS

Feel alive in a multicultural environment with exceptional social, cultural and sporting facilities, a huge range of food choices, medical and wellbeing services, and a comprehensive orientation program.

LIFE-LONG CONNECTIONS

Build your networks through student teams, clubs and societies and our Monash Engineering alumni network of more than 35,000 graduates from 90 countries.

A CAREER IN ENGINEERING

Engineers are creative, imaginative, analytical and technical, with excellent teamwork skills. As an engineer, you'll apply science and mathematics in a practical way to design and develop new technologies and improve existing ones.

CONSIDER A CAREER IN ENGINEERING IF YOU:

- are curious about how things work
- have an interest in improving the quality of human life
- enjoy designing and building things
- like analysing and solving problems
- are interested in maths and science
- enjoy challenges
- are goal-oriented
- like working with lots of different people in multidisciplinary teams.

WHAT DO ENGINEERS DO?

Engineers solve problems, figure out how things work and create solutions. They're key to the development of society and solving the challenges faced by our world, such as climate change, natural resource depletion, food shortages, supply of clean drinking water and increased demands on energy. Engineers possess a rare combination of skills and qualities that place them in demand in many industries. An engineer's career is diverse, interesting and can be anywhere in the world.

As a qualified engineer, you'll also be equipped to work in many areas outside of engineering, such as management, banking and consulting. Some engineers go on to become CEOs of major corporations. Problem-solving and planning skills, combined with a focus on the future and continuous improvement, make engineers excellent business leaders.

"What I enjoy most studying at Monash is the open community and the opportunities for growth. I went on field trips, industrial training and participated in competitions. These experiences enhanced my academic journey and developed my essential skills for future challenges in the engineering field.

I have always loved fixing things and finding innovative solutions always gave me a sense of accomplishment. Looking ahead, I envision myself contributing to technological advancements and working in an environment fueled by a passion for innovation."

NATALIE BOK

Bachelor of Mechanical Engineering (Honours)

Where are our graduates?

Engineers design, build and test everything we use to create a liveable and sustainable world. Their unique skills are needed in nearly every industry. With hundreds of different types of engineering jobs the possibilities are endless.

Our graduates have taken their skills and experiences gained, combined with the passion to explore new worlds nurtured during their academic study, to traverse the globe and succeed in varied careers in very different societies and cultures. You, too, can go anywhere with a Monash degree.

STEVEN TAN
Bachelor of Software Engineering (Honours)
Software Engineer
Apple, USA

GAN MEE SAN
Bachelor of Chemical Engineering (Honours)
Production Engineer
ASML, Netherlands

DAVID WONG YEONG YEOW
Bachelor of Chemical Engineering (Honours)
Senior Technical Specialist
Shell, Malaysia

MUHAMMAD HAFIZ RAMLI
Bachelor of Mechanical Engineering (Honours)
Fleet Management
Cathay Pacific, Malaysia

KUKARAJ THARMASEGARAM and **URMILA CHANDRASEKERAM**
Bachelor of Electrical and Computer Systems Engineering (Honours)
Founders
Mintpay, Sri Lanka

DR NICHOLAS LOW ZE-XIAN
Bachelor of Chemical Engineering (Honours)
Doctor of Philosophy (Chemical Engineering)
Professor
Nanjing Tech University, China

ANDY CHEE
Bachelor of Chemical Engineering (Honours)
Group Strategy Advisor
Shell, Singapore

FIGO CHIN WEN HUI
Bachelor of Mechatronics Engineering (Honours)
DT Risk and Compliance Manager
General Electric, USA

LYSANDRA SUE ANN KOON
Bachelor of Robotics and Mechatronics Engineering (Honours)
Solutions Engineer
Micron Technology, Singapore

JOYCELYN CHAN SUE YEE
Bachelor of Electrical and Computer Systems Engineering (Honours)
Systems Engineer
Siemens, Australia

DR ARVIND RAJAN
Bachelor of Electrical and Computer Systems Engineering (Honours)
Doctor of Philosophy (Electrical and Computer Systems Engineering)
Data Scientist
Clear21, Australia

CHEW MEI SHIEN
Bachelor of Chemical Engineering (Honours)
Master of International Business
Senior Project Manager (Research)
ClimateWorks, Australia

STUDENT TEAMS AND CLUBS

Student-led teams, clubs and societies give you the chance to get more out of your university experience. Gain a head start in your career through work-based learning. Develop hands-on skills, solve real problems and compete on the world stage. Form lasting friendships, industry connections, and develop your professional skills while pursuing areas you're passionate about.

Joining a student team will set you up for career success. It's how you distinguish yourself from the crowd and demonstrate to future employers that you can translate your study into practice. You'll get to experience authentic, real-world projects and challenges. Work in diverse, multi-disciplinary teams to deliver innovative products or drive change to make the world a better place.

Our student-run clubs and societies provide opportunities to connect with like-minded people, learn new skills and network with professional engineers to expand your circles – and your employment opportunities. Build strong links with the local engineering industry and make use of innovative facilities and leading research. Some of the groups available are:

Engineers Australia Monash Malaysia Student Section (EAMMSS)

EAMMSS serves as a bridge to connect Monash students with the engineering community across Malaysia and Australia. It provides a platform for you to engage with industry professionals and Monash alumni in informative events and workshops.

Institute of Engineers Malaysia Monash Student Section (IEMMSS)

IEMMSS aims to expose young engineers to the professional engineering world through talks and seminars by experts from the industry. Regular professional development opportunities are held throughout the year, including competitions and site visits.

Engineers without Borders Monash Student Chapter (EWB)

EWB runs a variety of events, workshops and hands-on volunteering opportunities with a focus on humanitarian design and how to use engineering to make a real difference in the world. It's a group that's filled with like-minded people who want to do great things for sustainable development and the environment.

Monash Women Engineers (MWE)

MWE supports, inspires and connects a network of women-identifying engineers at Monash to become competent and effective leaders of the engineering industry. It delivers a variety of events and industry guides to give you easy access to information that helps you make the most of your uni experience, and make a smooth transition into the workplace.

Robogals Monash Malaysia (RMM)

RMM is a not-for-profit organisation that aims to encourage more young women to pursue STEM career opportunities, with a focus on engineering. Robogals offers opportunities to strengthen your communication and leadership skills and gives volunteers access to professional development opportunities within an international organisation.

Shell Eco-marathon Team (SEM Team Monash)

The Shell Eco-marathon (SEM) is an annual competition where students research, design, and build fuel-efficient cars. SEM Team Monash has been participating in the Asian leg since 2013 and has developed cars powered by gas-to-liquids, gasoline, ethanol, natural gas, and most recently a hydrogen fuel cell. The competition is a great way to pick up a range of technical knowledge and soft skills, from hands-on workmanship, finance, project management and marketing, to fundraising activities.

ChemE Car Team (MUM ChemE Car)

Chem-E Car is an annual competition that challenges engineering students to design a car powered by a chemical energy source. This Chem-E Car must carry a specific load of water to a given distance, hit a ball or bowling pins and then stop autonomously. You'll get to apply your theoretical knowledge in practical settings, in a way that makes learning enjoyable and engaging.

Other discipline-focused clubs and societies you can be involved with are:

- Monash IChemE Student Chapter (IChemE)
- Institution of Civil Engineers Monash University Malaysia Student Chapter (ICE)
- Institute of Electrical and Electronics Engineers – Monash University Malaysia Student Branch (IEEE)
- Institute of Mechanical Engineers Monash Student Chapter (IMechE).

GRADUATE WORK-READY

Connect with industry on campus, undertake an internship or enhance your professional skills in the way that works best for you. Whether you want to unlock your leadership potential or start thinking like an entrepreneur, you'll have access to programs that leave you prepared for leadership, success and–most importantly–life.

Student Leaders Network (SLN)

SLN is a one-year program that equips you to be an engineering leader, connecting you with industry professionals through workshops, site visits, networking events, and a student-led summit, while building in-demand skills like leadership, teamwork, and communication.

Design competitions

Engineering competitions offer valuable opportunities to hone your skills, gain real-world experience, and may well be a stepping stone to greater things. Our students have excelled in events such as Shell Eco-marathon Asia, Thailand SAE Auto Challenge-Student Formula, National Chem-E-Car Malaysia, GreenTech Youth Innovation Challenge, and Monash Australia's Warman Student Design and Build competitions.

Industry engagement

Our engineering disciplines are guided by industry advisory panels that provide insights on engineering education in Malaysia and future industry needs. Students benefit from industry-linked final-year and research projects, internships, and placements, as well as career talks, guest lectures, and seminars by industry leaders.

Research opportunities

Experience a genuine research environment through the Undergraduate Research Opportunities Program, learning from leading academics and gaining skills to prepare you for your final-year project and higher degree studies.

Work experience

Classrooms provide the foundation for your engineering journey. Work experience amplifies your learning and hones your hands-on skills. As an Engineering student, you'll go on a 12-week internship, which will help you build hands-on experience, industry connections, and the technical and professional skills that set you apart in the job market.

Volunteering

Engineers Without Borders is an international volunteer organisation that partners with developing communities for sustainable, responsible engineering solutions. Our student chapter offers projects where you can make a positive impact on your local community while developing leadership, teamwork, time management, and project management skills.

Our students have contributed to diverse initiatives, including hosting life skills workshops for refugee students, installing a micro-hydro generator for a school in Sarawak with Lightup Borneo, constructing facilities for shelters and schools, instrument-making workshops with GoodKids Malaysia, and enhancing flood resilience in Pahang by planting bamboo along riverbanks.

BACHELOR OF ENGINEERING (HONOURS)

Engineers are collaborative and creative problem-solvers who design technology and develop innovative solutions to make things work better.

Their work is key to meeting the world's sustainable development goals, including advancing technologies for clean water, green energy, high-speed communications and transportation, advanced healthcare devices, reliable autonomous systems and safe, smart sustainable products, homes and cities, and more. As an engineer, you'll apply maths and science in a practical way, and work in teams to develop new technologies and improve existing ones.

The Bachelor of Engineering (Honours) has a common first year, allowing you to experience a range of disciplines before deciding on a specialisation. It focuses on the role of the engineer in the future while developing your foundational skills for engineering.

In your second year, you can choose to specialise in one of the following engineering disciplines: chemical engineering, civil engineering, electrical and computer systems engineering, mechanical engineering, mechatronics engineering or software engineering.

Accreditations

Your degree is accredited by:

- Engineering Accreditation Council Malaysia[1]
- Engineers Australia[2]
- Australian Computer Society.[3]

Minors

- Artificial intelligence in engineering
- Decarbonisation and net zero
- Electric vehicle technology Intelligent manufacturing
- Internet of Things
- Semiconductor
- Sensory systems in Industry 4.0
- Sustainable energy transition.

Course structure

You must complete five core units, one general studies unit and two electives in level one. The elective units help to expose you to one or more disciplines in level one.

LEVEL ONE (48 points)

Core units

- Engineering methods
- Engineering design
- Engineering smart systems
- Engineering numerical analysis
- Engineering mathematics

Elective units

Select three units from:

- Blueprints for life[4]
- Chemistry 1 advanced
- Spatial communication in engineering
- Engineering Industry 4.0 Design
- Leadership and entrepreneurship
- Next-Gen uncrewed vehicle
- Introduction to programming[5]
- Introduction to software engineering
- Physics for engineering
- Mechanics of fluids
- Process material selection
- Biochemistry for engineers
- Digital systems
- Manufacturing processes
- Plastics and the planet: Health, impact and sustainability
- Introduction to systems engineering.

4 years

February, July and October

RM54,720 Malaysian student
RM64,800 International student
2026 fees for full course

Professionally accredited

Industrial training

SPECIALISATIONS

- Biomedical Engineering
- Chemical Engineering
- Civil Engineering
- Electrical and Computer Systems Engineering
- Materials Engineering
- Mechanical Engineering
- Robotics and Mechatronics Engineering
- Software Engineering

1 All undergraduate engineering degrees except the Bachelor of Software Engineering (Honours).
2 Undergraduate engineering degrees only. Valid for the Bachelor of Biomedical or Materials Engineering (Honours) only when the course is completed at Monash University, Australia.
3 Bachelor of Software Engineering (Honours) only.
4 If you intend to specialise in biomedical engineering, you must complete this unit.
5 If you intend to specialise in software engineering, you must complete this unit.

"Originally, my preferred specialisation was civil engineering. It was during the common first year that I started to get acquainted with programming and software development, and my passion for software was kindled. My internship also helped me to gain insight into potential career paths, giving me a better idea of my career direction."

JULIA LAU KAIWEN
Bachelor of Software Engineering (Honours)

BIOMEDICAL ENGINEERING

KPT/JPT (N/0788/6/0018) 01/32 - MQA/PSA 18304

4 years

February

Year 1 and 2 in Malaysia
RM54,720 Malaysian student
RM64,800 International student
2026 fees per year

Year 3 and 4 in Australia
A$59,600 International student
2026 fees per year

Professionally accredited

Industrial training

COURSE HIGHLIGHTS

- Leverage our network of industry partners to gain valuable practical experience and start building your career.
- Pursue biomedical engineering research at the Victorian Heart Hospital on the Clayton campus, Australia's first dedicated cardiac hospital.
- Capitalise on the growing demand for biomedical engineers, driven by advancements in AI, an ageing population, and a thriving medical device sector.

Biomedical engineers apply engineering design skills to medical and biological sciences for the purpose of improving people's health.

X-rays, cardiac pacemakers, ventilators and artificial joints – these are just some of the critical technologies used every day to save lives and promote better health outcomes, and were all designed by biomedical engineers.

As a biomedical engineer, you'll bridge the gap between medicine and technology to improve diagnostics, monitoring and therapy, and create new medical instruments and devices.

Whether you design new 3D-printed prosthetics, use biomaterials to repair and regenerate cells, apply AI principles to advanced monitoring tools, or build your own start-up in the med-tech field, you'll make a powerful impact on patients' treatment, recovery and quality of life as a biomedical engineer.

At Monash, you'll be equipped with strong clinical, technical and regulatory foundations in professional biomedical engineering practice, taught by leading academics in physiology, anatomy, molecular biology, materials science, electrical, biomedical, mechanical and chemical engineering.

Course structure

You'll complete 108 points of core units and 36 points of electives to graduate. Units offered in levels two to four are listed below. Units have a value of six credit points, unless stated otherwise.

LEVEL TWO

- Advanced engineering mathematics
- Computer organisation and programming
- Electrical circuits
- Solid mechanics 1
- Signals and systems
- Neural networks and deep learning
- Biomedical microsystems
- Mechanics of fluids.

LEVEL THREE

- Neuroscience of communication, sensory and control systems
- Molecular biology and the cell
- Biomaterials 1
- Early human development from cells to tissues
- Human physiology: Cardiovascular, respiratory and renal systems
- The dynamic cell
- Medical technology innovation
- Human anatomy and development: Tissues and body systems.

LEVEL FOUR

- Final year project A
- Final year project B
- Sensors and artificial perception
- Biomedical engineering integrated design
- Professional practice
- Medical instrumentation
- Biomaterials 2
- Elective unit.

Transferring to Australia

To transfer to the Clayton campus, you'll need to have:

- completed at least 84 credit points with an overall minimum WAM of >= 50% if you've completed your second year, or
- completed at least 24 credit points with an overall minimum WAM of >= 55% if you're transferring before your second year
- be in good academic standing for the past 12 months
- not been before an Academic Progress Committee (APC) panel in the year leading up to your application to transfer
- not be subject to an APC panel at the time of applying.

An engineering degree studied in two countries

The Bachelor of Biomedical Engineering (Honours) is a four-year degree where you'll study your first two years in Malaysia and your final years at our Clayton campus in Melbourne, Australia.

Immerse yourself in two cultures and academic environments while studying a degree of the highest education quality.

CHEMICAL ENGINEERING

KPT/JPT (R/524/6/0045) 03/27 - MQA/FA4650

Chemical engineers play a key role in advancing renewable energy technologies and creating sustainable processes for products we use every day, from electronics, food, and beverages to fuel, paper, pharmaceuticals, and cosmetics.

As a chemical engineer, you'll invent, design, and refine processes that convert raw materials into useful products, while striving to minimise waste, energy consumption, and emissions. Your work will help deliver cleaner, more efficient technologies for a sustainable future.

At Monash, practical experience is an integral part of the chemical engineering curriculum. Through hands-on projects, you'll apply theoretical knowledge to real-world situations. You'll gain valuable field experience while developing problem-solving, critical thinking, and project management skills, along with a deep understanding of the principles that underpin chemical engineering.

Course structure

You'll complete 108 points of core units and 36 points of electives to graduate. Units offered in levels two to four are listed below. Units have a value of six credit points, unless stated otherwise.

LEVEL TWO

- Mechanics of fluids
- Material and energy balances
- Heat and mass transfer
- Thermodynamics 1
- Chemistry 1 advanced
- Advanced engineering mathematics
- Two level two/three electives.

LEVEL THREE

- Chemistry and chemical thermodynamics
- Process control
- Reaction engineering
- Separation processes
- Process design
- Transport phenomena and numerical methods
- Two level three/four electives.

LEVEL FOUR

- Professional practice
- Particle technology
- Design project (12 points)
- Final year project A
- Final year project B
- Two level four electives.

Elective units

LEVEL TWO

- Process material selection
- Introduction to process simulation
- Biochemistry for engineers
- Introduction to chemical processes
- Electrical circuits
- Computer organisation and programming

LEVEL THREE

- Sustainable processing 1
- Bioprocess technology
- Nanotechnology and materials 1
- Sensors and artificial perception
- Pilot plant project.

LEVEL FOUR

- Sustainable processing 2
- Biochemical engineering
- Nanotechnology and materials 2
- Carbon capture, storage and utilisation
- Low-carbon technology
- Carbon footprint and energy management.

4 years

February, July and October

$ RM54,720 Malaysian student
RM64,800 International student
2026 fees for full course

Professionally accredited

Industrial training

COURSE HIGHLIGHTS

- Address global challenges with a degree that responds to changing food, energy, environment and water needs.
- Enhance your employability with hands-on experience at Monash's pilot plant facility.
- Experience strong industry engagement through mentored design projects, collaborations with leading partners, and professional courses that prepare you for real-world engineering practice.

RECOMMENDATION

Complete Chemistry 1 advanced at level one.

CAREER PATHS

Your knowledge can be applied across many sectors, including:

- banking and finance
- environmental protection and recycling
- food and beverage
- fuel
- oil and gas
- oleochemicals
- pharmaceuticals
- polymer and plastics
- renewable energy
- semiconductors
- toiletries and cosmetics
- water treatment.

"I've always been fascinated by how raw materials are transformed into valuable products through sustainable methods. A chemical engineering degree offered diverse career opportunities across industries, which aligned with my passion for making a positive impact on society and the environment. The coursemates I met at Monash are some of the best people I know, and my lecturers were very knowledgeable and helpful. You know it means something when you still keep in touch despite graduating years ago."

CALVIN TEH LOON XIAN

Bachelor of Chemical Engineering (Honours)

Marine Logistics Supervisor, ExxonMobil Australia

CIVIL ENGINEERING

KPT/JPT (R2/520/6/0039) 01/28 - MQA/FA8848

4 years

February, July and October

RM54,720 Malaysian student
RM64,800 International student
2026 fees per year

Professionally accredited

Industrial training

COURSE HIGHLIGHT
Delve into industry-driven and research-oriented projects.

RECOMMENDATION
Complete Spatial communication in engineering at level one.

CAREER PATHS
You'll find challenging and rewarding opportunities in the following areas:

- government infrastructure projects
- water and wastewater industries
- construction and mining
- roads and traffic industries
- marine and resort developments
- property and land development
- consulting firms.

Civil engineers design and improve infrastructure systems and processes that significantly improve our daily lives while ensuring the sustainability of the environment around us.

We rely on civil engineers to construct and maintain the infrastructure of modern society. For example, they design and build transportation systems, construct commercial and industrial complexes, and create water supply and pollution control structures. Civil engineers also innovate efficient, sustainable and cost-effective ways to repair or replace civil infrastructures such as roads, bridges and buildings.

At Monash, we help you prepare for your civil engineering career early, with a focus on the fundamentals and a taste of industry experience through opportunities in the major fields.

Course structure

You'll complete 108 points of core units and 36 points of electives to graduate. Units offered in levels two to four are listed below. Units have a value of six credit points, unless stated otherwise.

LEVEL TWO

- Advanced engineering mathematics
- Geomechanics I
- Structural materials
- Structural mechanics
- Transport and traffic engineering
- Water systems
- Two level one/two electives

LEVEL THREE

- Building structures and technology
- Engineering hydrology
- Geomechanics II
- Professional practice
- Road engineering
- Structural design
- Two level four electives

LEVEL FOUR

- Bridge design and assessment
- Civil and environmental engineering practice
- Final year project A
- Final year project B
- Foundation engineering
- Water treatment
- Two level four electives

Elective units

LEVEL ONE

- Spatial communication in engineering

LEVEL TWO

- Civil engineering construction

LEVEL FOUR

- Autonomous vehicle systems
- Advanced structural analysis
- Advanced structural design
- Ground hazards engineering
- Integrated urban water management
- Water security in a changing climate
- Transport planning
- Sustainable traffic systems.

"I thrive in challenging environments and enjoy solving open-ended problems, something Monash strongly encouraged. I found myself diving deep into topics that spark my interest, and construction materials captivated me the most. The idea that innovative materials can push the boundaries of what we can build truly excites me. The passion ultimately led me to pursue research."

DR HIEW SHACK YEE

Bachelor of Civil Engineering (Honours)
Doctor of Philosophy (Structural Engineering)

Postdoctoral Researcher, Yonsei University, Seoul

ELECTRICAL AND COMPUTER SYSTEMS ENGINEERING

KPT/JPT (R3/523/6/0081) 04/29 - MQA/FA7521

This course is a unique blend of electronics, computer systems, electrical power and telecommunications engineering.

Electrical and computer systems engineering is an extremely diverse field that can contribute to various fields such as biomedical, semiconductors, electrical power, AI, robotics and telecommunications. As an electrical and computer systems engineer, you'll develop and design next-generation communication technologies, semiconductor chips, electronic sensors and devices, and smart solutions for various industries.

At Monash, you have the opportunity to be exposed to the real engineering world during your studies through design competitions and industry-sponsored projects. You can also take minors in the fields of artificial intelligence, semiconductor technology, Internet of Things, intelligent manufacturing and electric vehicles to further equip you with industry-relevant skills.

Course structure

You'll complete 108 points of core units and 36 points of electives to graduate. Units offered in levels two to four are listed below. Units have a value of six credit points, unless stated otherwise.

LEVEL TWO

- Signals and systems
- Probability and AI for engineers
- Electrical circuits
- Systems programming
- Digital systems
- Advanced engineering mathematics
- Two level two/three electives

LEVEL THREE

- Analogue electronics
- Electrical energy systems
- Computer systems
- Information and networks
- Control system design
- Two level three/four electives

LEVEL FOUR

- Project A
- Project B
- Engineering integrated design
- Professional practice
- Two core electives
- Two level three/four electives

Elective units

LEVEL TWO

- Solid mechanics 1
- Introduction to systems engineering

LEVEL THREE

- Optimisation and numerical methods for engineers
- Material properties and selection
- Sensors and artificial perception

LEVEL FOUR

- Advanced control
- Optical communications
- Telecommunications protocols
- Network performance
- Power system analysis
- Integrated circuit design
- Real time embedded systems
- Computer vision
- Intelligent robotics
- Advanced electromagnetics
- Multimedia technologies
- Neural networks and deep learning
- Microsystems and semiconductor fabrication
- Solid state lighting
- Internet of things: Communication, data and security
- Smart grids.

4 years

February, July and October

RM54,720 Malaysian student
RM64,800 International student
2026 fees per year

Professionally accredited

Industrial training

COURSE HIGHLIGHTS

- A multifaceted electrical engineering degree unlike any other in Malaysia.
- Learn in four specialised labs supporting projects and world-class research in deep learning, Internet of things, intelligent lighting, and micro and nano devices.
- Get a headstart in your engineering career through our extensive collaboration with industry.
- Enhance your skills and stretch your limits with external design competitions.

CAREER PATHS

You could work in a wide range of industries, including:

- artificial intelligence
- automation
- computer systems
- electric vehicle
- healthcare
- industrial and power electronics
- Internet of Things (IoT)
- intelligent manufacturing
- power generation
- robotics
- semiconductor technology
- software engineering
- technology consultancy
- telecommunications

"I've always enjoyed solving sophisticated problems and appreciated how engineering blends creativity with logic. It is a great creative outlet that could build a world of endless possibilities. It was pretty well known that Monash offers a strong engineering program, and I chose Monash because I believed it would prepare me the best for real-world application."

HING SHU LI

Bachelor of Electrical and Computer Systems Engineering (Honours)

Firmware Engineer, Maistorage Technol

MATERIALS ENGINEERING

KPT/JPT (N10714/610028) 02/31 - MQA/PSA 17375

4 years

February, July and October

Year 1 and 2 in Malaysia
RM54,720 Malaysian student
RM64,800 International student
2026 fees per year

Year 3 and 4 in Australia
A$59,600 International student
2026 fees per year

Professionally accredited

Industrial training

COURSE HIGHLIGHTS

- Monash is one of only a few universities in Malaysia offering a degree in materials engineering.
- Build an exciting career focused on innovation in emerging industries such as semiconductors and electronics, and electric and hydrogen vehicles.
- Secure stable employment in established industries such as rubber, metal processing and steel.
- Enjoy a varied and stimulating experience with elements of physics, mathematics, biology and chemistry in this course.

CAREER PATHS

Working across a range of exciting industries including aerospace, biomedical, mining, manufacturing, processing, semiconductor and recycling, materials engineers become:

- metallurgists
- plastics engineers
- ceramists
- adhesive scientists
- process and quality-control engineers
- corrosion or fracture engineers.

Materials engineering is all about making new materials and improving existing ones.

It's about making things stronger, lighter and more functional, sustainable and cost effective. It underpins much of engineering – if we want to make things, we need to have materials with the right properties. Whether it's a next-generation jet engine, a biodegradable tissue scaffold to grow organs from stem cells, or new types of solar cells and batteries, the structure, properties and processing of materials are crucial to the final product.

Materials engineers work with everything from the thermal protection of space shuttles to high-tech artificial hip and cochlear implants, and nanoparticles that seek and destroy cancer. Materials engineering is truly interdisciplinary. It involves physics, mathematics, biology and chemistry, culminating in a groundbreaking research field and a thriving job market.

Course structure

You'll complete 108 points of core units and 36 points of electives to graduate. Units offered in levels two to four are listed below. Units have a value of six credit points, unless stated otherwise.

LEVEL TWO

- Atomic-scale structure of materials
- Phase equilibria and phase transformations
- Mechanical properties of materials
- Materials in a complex world 1: People, projects and data
- Plastics and the planet: Health, impact and sustainability
- Advanced engineering mathematics
- Two elective units

LEVEL THREE

- Materials life cycle
- Plasticity of metals and alloys
- Electronic and photonic materials
- Magnetic and spintronic materials
- Introduction to ceramics: Properties, processing and applications
- Materials in a complex world 2: Characterisation, identification and selection
- Two elective units

LEVEL FOUR

- Final year project A
- Final year project B
- Professional practice
- Advanced materials processing and manufacturing
- Integrated design project
- Three elective units.

Elective units

- Biomaterials 1
- Special studies in engineering 1
- Engineering technology for biomedical imaging and sensing
- Implantable devices
- Nuclear energy: Science, technology and society
- Modelling of materials
- Advanced ceramics and applications
- Materials and sustainability
- Engineering alloy design, processing and selection
- Corrosion mechanisms and protection methods
- Biomaterials 2
- Engineering with nanomaterials
- Electron microscopy
- Applied crystallography in advanced materials characterisation
- Advanced polymeric materials
- Environmental durability and protection of metals and engineering materials
- Advanced photovoltaics and energy storage
- Biomaterials and biomechanics
- Additive manufacturing of metallic materials
- Additive manufacturing of polymeric and functional materials.

Transferring to the Clayton campus

You'll need to have:

- completed at least 84 credit points with an overall minimum WAM of >= 50% if you've completed your second year, or
- be in good academic standing for the past 12 months
- not been before an Academic Progress Committee (APC) panel in the year leading up to your application to transfer
- not be subject to an APC panel at the time of applying.

An engineering degree studied in two countries

The Bachelor of Materials Engineering (Honours) is a four-year degree where you'll study your first two years in Malaysia and your final years at our Clayton campus in Melbourne, Australia.

Immerse yourself in two cultures and academic environments while studying a degree of the highest education quality.

MECHANICAL ENGINEERING

KPT/JPT (R2/521/6/0099) 03/27 - MQA/FA7520

Mechanical engineers develop efficient use of energy in all types of mechanisms, providing a foundation to many modern specialisations.

While mechanical engineers are well-known in driving the oil and gas, automotive, aerospace, HVAC, power generation and manufacturing industries in many developing countries, mechanical engineering remains a cornerstone of innovation, consistently adapting to the evolving landscape of technology while addressing the dynamic needs and challenges of many industries worldwide.

Emerging industries, as listed under career paths, created even more demand for mechanical engineers, showcasing their resilience and adaptability in many interdisciplinary fields that have evolved from traditional industries.

Course structure

You'll complete 108 points of core units and 36 points of electives to graduate. Units offered in levels two to four are listed below. Units have a value of six credit points, unless stated otherwise.

LEVEL TWO

- Design 1
- Solid mechanics 1
- Advanced engineering mathematics
- Modelling and control
- Thermofluids 1
- Dynamics 1
- Two level two/three electives

LEVEL THREE

- Solid mechanics
- Fluid mechanics 2
- Material properties and selection
- Mechanical dynamics 2
- Mechanical design 2
- Numerical methods and machine learning
- Two level three/four electives

LEVEL FOUR

- Final year project A
- Final year project B
- Professional practice
- Thermodynamics 2 and heat transfer
- Finite element analysis
- Mechanical design 3
- Two level three/four electives

Elective units

LEVEL TWO

- Electrical circuits
- Manufacturing processes
- Introduction to systems engineering

LEVEL THREE

- Introduction to reliability engineering
- Introduction to electric vehicle technology
- Artificial intelligence in manufacturing
- Special projects in automotive design and build
- Computational fluid dynamics
- Composite mechanics
- Linear algebra (Offering from 2027)
- Sensors and artificial perception

LEVEL FOUR

- Carbon capture, storage and utilisation
- Low-carbon technology
- Carbon footprint and energy management
- Neural networks and deep learning
- Airborne and waterborne acoustics
- Energy-efficient cooling systems
- Non-destructive testing and inspection
- Sustainable combustion technologies
- Engineering cyber-physical systems
- Robotics.

4 years

February, July and October

RM54,720 Malaysian student
RM64,800 International student
2026 fees per year

Professionally accredited

Industrial training

COURSE HIGHLIGHTS

- Participate in award-winning external competitions for a greater learning experience.
- Get involved in diverse cutting-edge research of our academics, such as soft robotics, engineering cancer treatment, predictive modelling with AI, clean energy discovery, and many more through a variety of final-year projects.
- Diversify your knowledge with master-level elective units in the area of applied engineering, including energy and sustainability.

CAREER PATHS

Graduates would play a significant role as consultants, design engineers, project managers or run their own company in cutting-edge industries such as:

- electric and autonomous vehicles
- green and renewable energy
- intelligent manufacturing
- data-driven engineering
- healthcare and medical engineering
- sports and entertainment
- advanced robotics
- space exploration
- high impact research and development.

"One of the most exciting aspects of my student life at Monash was the vibrant culture of innovation and collaboration that permeated every corner of the campus. Whether it was engaging in hands-on projects in state-of-the-art engineering labs or participating in dynamic group discussions with peers from diverse backgrounds, I found myself constantly immersed in a mentally stimulating environment that fostered creativity and ingenuity."

EVAN TAN WEI FENG

Bachelor of Mechanical Engineering (Honours)

Senior Project Engineer, Jebsen & Jessen Malaysia

ROBOTICS AND MECHATRONICS ENGINEERING

KPT/JPT (R2/523/6/0230) 03/27 - MQA/FA7519

4 years

February, July and October

RM54,720 Malaysian student
RM64,800 International student
2026 fees per year

Industrial training

COURSE HIGHLIGHTS

- Designed in response to the fast-paced and growing needs of the industry and our lifestyle.
- Extensive collaboration with industry which gives you a headstart in your engineering career.
- Be a part of an experienced team in international and national external design competitions to enhance your skills and stretch your limits.

RECOMMENDATION

Complete Introduction to systems engineering at level one.

CAREER PATHS

The need for professionals in this progressive field is increasing. You'll be in high demand in many fields, including:

- artificial intelligence
- automation
- nanotechnology
- robotics
- bio-engineering
- smart manufacturing
- automation
- automotive
- deep analytics.

Robotics and mechatronics is where autonomous and intelligent devices and systems are created, synergically employing knowledge from mechanical, electrical, and computing disciplines.

As a robotics and mechatronics engineer, you will learn how to comprehensively design a myriad of intelligent and autonomous applications. These applications could range from autonomous vehicles to miniature robots commonly used in medical applications. You will also learn how to turn existing systems and devices into smart systems.

Robotics and mechatronics engineers are also adept at handling vast amounts of data and creating systems that use the data to operate intelligently.

The applications of this field are vast and unlimited. Our graduates are working in industries that design algorithms and intelligent systems for autonomous vehicles, advanced business process automation, intelligent manufacturing, robotic design and many more. With the knowledge and skills you'll have when you graduate, you too will be able to design, develop, manufacture and operate the intelligent products and complex systems of today and tomorrow.

Course structure

You'll complete 108 points of core units and 36 points of electives to graduate. Units offered in levels two to four are listed below. Units have a value of six credit points, unless stated otherwise.

LEVEL TWO

- Electrical circuits
- Design methods
- Computer organisation and programming
- Advanced engineering mathematics
- Mechanics
- Digital systems
- Two elective units

LEVEL THREE

- Computer systems
- Dynamical systems
- Sensors and artificial perception
- Modeling and control
- Thermo-fluids
- Electrical energy systems or Introduction to Electric Vehicle Technology[1]
- Deep learning and neural networks
- One elective unit.

LEVEL FOUR

- Final year project A
- Final year project B
- Robotics
- Professional practice
- Computer vision
- Integrated design project
- Two elective units.

1 You must complete these units if you plan to seek accreditation with the Engineering Accreditation Council Malaysia.

"I chose Monash because it is one of the top-ranking universities in the country for engineering and I wanted a competitive degree that would enhance my career opportunities. The best part about Monash is the lecturers. They are passionate about their work, student education and wellbeing. They have created an environment where curiosity and passion are welcomed."

CHRISTOPHER ONG WEN GUANG

Bachelor of Mechatronics Engineering (Honours)

Devol Robots, Robotics Software Engineer

SOFTWARE ENGINEERING

KPT/JPT (R2/0612/6/0026) 11/32 - MQA/SWA13363

Software engineering is driving the next wave of technological breakthroughs. As a software engineer, your skills will drive emerging fields from AI-powered healthcare and autonomous transportation to smart cities, robotics, and next-generation cyber-physical systems, shaping the technologies of tomorrow.

Leading companies and governments rely on smart, secure, and reliable software and on the engineers who build it. In this specialisation, you'll apply engineering principles to design, develop, and enhance software systems that power emerging technologies such as AI, automation, cloud platforms, digital twins, and next-generation cyber-secure applications.

Software engineering goes beyond coding. It's about architecting scalable solutions, ensuring safety and reliability, and shaping the technologies that will define the future.

As modern systems grow more complex, collaboration is key. Our studio-based learning equips you with teamwork, communication, and project-management skills to excel in real-world, multidisciplinary development teams.

Course structure

You'll complete 108 points of core units and 36 points of electives to graduate. Units offered in levels two to four are listed below. Units have a value of six credit points, unless stated otherwise.

LEVEL TWO

- Fundamentals of algorithms for engineers
- Discrete mathematics for computer science for engineers
- Object-oriented analysis, design and implementation
- Software engineering process and management
- Operating systems
- Databases
- Two level two/three electives

LEVEL THREE

- Computer architecture and networks
- Software engineering: architecture and design
- Software engineering practice
- Software quality and testing
- Software security
- Cloud computing
- Two level three/four electives

LEVEL FOUR

- Software engineering industry experience studio project (12 points)
- Final year project A
- Final year project B
- Advanced topics in software engineering
- One level four elective
- Two level three/four electives

Elective units

LEVEL THREE

- Business intelligence and data warehousing
- Artificial intelligence
- Parallel computing
- Data analytics
- Advanced data analysis
- Advanced data structures and algorithms
- Usability
- Data visualisation
- Big data management and processing
- Malicious AI and dark side security

LEVEL FOUR

- IT research and innovation methods
- Advanced topics in intelligent systems.

Internship

You will be placed into an internship program related to software engineering after accumulating at least 120 credit points.

4 years

February, July and October

RM54,720 Malaysian student
RM64,800 International student
2026 fees per year

Professionally accredited

COURSE HIGHLIGHTS

- The only software engineering program accredited by Engineers Australia.
- Accredited by the Australian Computer Society.
- Emphasises practice-based learning through studio projects and internships.
- Apply for the School of IT's Industry Based Learning program to complete a half-year placement with leading Malaysian and global organisations. The placement counts towards your course and is supported by a scholarship.

RECOMMENDATION

Complete Programming fundamentals in Java and/or Collaborative engineering for web applications at level one.

CAREER PATHS

Graduates may find employment in the following positions:

- applications developer
- internet developer
- programming specialist
- cloud engineer
- DevOps engineer
- software engineer
- software architect
- data engineer
- AI/machine learning engineer.

"I appreciated that during my studies, instead of working on assignments in silo, there was a lot of collaborative work. This prepared students like me for the real world, where software engineers work in teams and communicate with clients and stakeholders. I'm grateful for these opportunities, as they made my transition from study to career much easier."

DYLAN TAN WEI JUN

Bachelor of Software Engineering (Honours)

Java Engineer, Ant International

SAMPLE COURSE MAP

Here's an example of what your studies could look like if you selected Electrical and Computer Systems Engineering.

YEAR 1/LEVEL 1	UNITS			
Semester 1 24 Credit points	**ENG1011** Engineering methods 6 Credit points	**ENG1005** Engineering mathematics 6 Credit points	**ENG1014** Engineering numerical analysis 6 Credit points	Level 1 technical elective unit 6 Credit points
Semester 2 24 Credit points	**ENG1012** Engineering design 6 Credit points	**ENG1013** Engineering smart systems 6 Credit points	Elective 6 Credit points	Elective 6 Credit points
YEAR 2/LEVEL 2	**UNITS**			
Semester 1 24 Credit points	**ECE2071** Systems programming 6 Credit points	**ECE2131** Electrical circuits 6 Credit points	**ENG2005** Advanced engineering mathematics 6 Credit points	Level 1, 2 or 3 elective or technical elective unit 6 Credit points
Semester 2 24 Credit points	**ECE2072** Digital systems 6 Credit points	**ECE2111** Signals and systems 6 Credit points	**ECE2191** Probability and AI for engineers 6 Credit points	Level 1, 2 or 3 elective or technical elective unit 6 Credit points
YEAR 3/LEVEL 3	**UNITS**			
Semester 1 24 Credit points	**ECE3073** Computer systems 6 Credit points	**ECE3141** Information and networks 6 Credit points	**ECE3051** Electrical energy systems 6 Credit points	Engineering minor or level 3 or 4 technical elective 6 Credit points
Semester 2 24 Credit points	**ECE4132** Control system design 6 Credit points	**ECE3121** Engineering electromagnetics 6 Credit points	**ECE3161** Analogue electronics 6 Credit points	Engineering minor or level 3 or 4 technical elective 6 Credit points
ENG0002 Industrial training				
YEAR 4/LEVEL 4	**UNITS**			
Semester 1 24 Credit points	**ENG4701** Final year project A 6 Credit points	**ECE3051** Professional practice 6 Credit points	Core list A elective 6 Credit points	Engineering minor or level 3, 4 or 5 technical elective 6 Credit points
Semester 2 24 Credit points	**ENG4702** Final year project B 6 Credit points	**ECE4191** Engineering integrated design 6 Credit points	Core list B elective 6 Credit points	Engineering minor or level 3, 4 or 5 technical elective 6 Credit points

Core unit Free elective unit Discipline technical elective Industrial training

Scan to view the course maps for all specialisations.

MASTER OF APPLIED ENGINEERING

KPT/JPT (N/0710/7/0016) 06/26 - MQA/SWA14789

Take your career to the next level.

Specialise in rapidly-developing areas of engineering and gain the skills required to tackle the issues that define our generation. This course provides you with the knowledge, understanding and skills to to deal effectively with advanced issues involving the application of engineering in various domains.

Areas of specialisation

DECARBONISATION AND NET ZERO

Lead decarbonisation with expertise in carbon accounting, low-carbon technologies, and carbon capture, storage, and utilisation, driving innovation and tackling industry challenges to achieve net-zero goals.

Units required (48 points)

- Waste management and biomass transformation
- Carbon capture, storage and utilisation
- Low carbon technology
- Carbon footprint and energy management
- Neural networks and deep learning
- Industry-based project A
- Industry-based project B
- One elective.

INDUSTRIAL AI AND ROBOTICS ENGINEERING

Upskill in AI-driven smart manufacturing, robotics, IoT integration, data analytics, and lean optimisation to design intelligent, sustainable, and connected Industry 4.0 systems, fostering future-ready, all-rounder technological capabilities.

Units required (48 points)

- Neural networks and deep learning
- Data driven supply chain optimisation and AI applications
- Lean manufacturing
- Statistical data processing and operations research
- Advanced robotics in manufacturing
- Design for additive manufacturing
- Industry-based project A
- Industry-based project B.

INTERNET OF THINGS (IOT) SYSTEMS AND TECHNOLOGIES

Design comprehensive IoT systems and operate IoT hardware, communications technology and intelligent data processing to help industries reduce costs and increase productivity and agility.

Units required (48 points)

- Statistical data processing and operations research
- Engineering IoT systems
- Machine-to-machine storage and communication
- Neural networks and deep learning
- Communication protocols for industrial IoT
- Smart sensors and embedded systems
- Industry-based project A
- Industry-based project B.

SEMICONDUCTOR AND MICROSYSTEMS ENGINEERING

Engineer the chips powering future technology. Advance your knowledge in semiconductor technology, IC design, and manufacturing for high-value careers in global semiconductor and electronics companies.

Units required (48 points)

- Large scale digital design
- Advanced semiconductor devices
- Microsystems and semiconductor fabrication
- Microsystem packaging, assembly and testing
- Neural networks and deep learning
- Data driven supply chain optimisation and AI applications
- Industry-based project A
- Industry-based project B.

SMART AND SUSTAINABLE MOBILITY

Build smarter, greener cities with hands-on experience in AI, intelligent transport systems, electric and autonomous vehicles, and digital twin technologies.

Units required (48 points)

- Planning urban mobility futures
- Autonomous vehicle systems
- Electric Mobility
- Smart urban mobility and digital twins
- Neural networks and deep learning
- Industry-based project A
- Industry-based project B
- One elective.

SUSTAINABLE ENERGY ENGINEERING

Create a sustainable future that thrives on clean energy and responsible practices. You'll be equipped to tackle global challenges of energy management and technologies, ecology, and sustainable development.

Units required (48 points)

- Industrial ecology
- Operations and supply chain management
- Sustainable energy technologies
- Energy efficiency and sustainability
- Waste management and biomass transformation
- Green building
- Industry-based project A
- Industry-based project B.

Missed the English language requirements?

Enjoy a full tuition fee rebate for Monash English when you enrol, reimbursed over two semesters of your Master of Applied Engineering studies.

monash.edu.my/scholarships

1 year (full-time)
or 2 years (part-time)[1]

February and July

RM57,120 Malaysian student
RM65,280 International student
2026 fees for full course

Coursework
Classes are held weekday evenings and Saturday mornings.

CAREER PATHS

Depending on your specialisation, you could be a/an:

- energy manager
- renewable energy engineer
- industrial automation engineer
- AI and machine learning engineer
- IoT solutions engineer
- IoT hardware engineer
- carbon analyst
- net-zero technology consultant
- smart mobility planner
- electric vehicle specialist
- semiconductor manufacter
- IC design engineer.

1 Part-time study is not available for international students

"I gained in-depth knowledge of renewable energy technologies and sustainable practices, with a strong balance of theory and hands-on application. The industrial project component was a highlight; I worked with AmSolar on a grid-connected photovoltaic system, where I applied my learning directly to real-world challenges and gained valuable industry experience."

MOHAMMAD NAZMUS SAKIB KHAN
Master of Applied Engineering

RESEARCH WITH IMPACT

Make a real difference and solve global challenges with a PhD or masters-by-research degree. You'll collaborate with prominent researchers, lead pioneering investigations and broaden your career horizons.

JOIN THE NEXT GENERATION OF RESEARCH LEADERS

Pursue a research degree to expand your expertise in a world-class research environment. You'll connect with world-leading academics and industry partners to make a positive impact on society.

Help address the UN Sustainable Development Goals and solve issues in a stimulating, supportive environment across STEM areas such as climate change, transport congestion, water supply security, sustainable energy, artificial intelligence and robotics.

BE MENTORED BY EXPERT SUPERVISORS

Accelerate your growth with mentoring from at least two active researchers who are leaders in their field. You'll further your research – and deepen your impact – through expert supervision and ongoing professional development.

Our supervisors don't settle for the status quo. And neither will you. Together, you'll strive for excellence, question assumptions and help solve the greatest challenges of our age.

COLLABORATE WITH INDUSTRY

Collaboration is at the core of all our research. It's how we spark innovation through interdisciplinary insights and dynamic industry partnerships. At Monash, you'll work with industry partners and connect with leading research institutes to investigate real-world challenges.

Go hands-on in advanced facilities and network with our far-reaching community to leave a sustainable legacy for future generations.

EXPAND AND STRENGTHEN YOUR CAREER OPTIONS

With a research degree, you'll open doors in industry, academia and beyond. You'll gain diverse, in-demand and transferable skills like leadership, project management, data analytics and digital processing.

We prepare you for a rewarding career, with a mindset geared towards calculated risk-taking, entrepreneurship and ethical practice. Where you go from there is up to you.

SUPPORT YOUR STUDY WITH RESEARCH SCHOLARSHIPS

To nurture outstanding academic achievement, Monash offers several scholarship programs to help cover tuition fees, stipends and even living expenses, such as the prestigious Global Excellence and Mobility Scholarship that will take you to Australia for up to 9 months.

monash.edu.my/scholarships

A QUICK GLANCE AT WHAT WE'RE WORKING ON...

IMPROVING PATIENT MOBILITY

Diseases like stroke and injuries to the spinal cord often result in reduced mobility and are reported to be among the leading causes of mobility impairments worldwide. We're working on an exoskeleton, called Ambulate Me, to help support the body by sending stimulation signals to the affected muscle group so that the limbs can move again.

ENABLING SAFE DRINKING WATER

A three-pronged collaboration between Monash, University of Newcastle, and Sri Lanka Institute of Nanotechnology is addressing the global water challenge. Together, our researchers are developing a portable filtration device, produced at a fraction of the cost of other similar water filters, that can be fitted into water bottles to allow those deprived of access to clean drinkable water.

REPURPOSING E-WASTE

Without e-waste recycling, natural materials used in electronic and electrical components are lost when products are discarded. Our mining and minerals engineering experts are exploring the extraction of copper from discarded printed circuit boards. We're also developing a Smart E-Waste Collection Box, which uses a mobile application to optimise the collection of e-waste materials.

DETECTING HARMFUL POLLUTANTS

A Monash team is working on an advanced sensor that can detect harmful environmental pollutants. The sensor will be able to function without a power supply and can be manufactured into wearables like watches, rings and belts. This invention will make an enormous difference for people living in polluted cities.

RESEARCH THEMES

Work alongside leading STEM researchers as you investigate insights, follow breakthroughs, pioneer research, and transform our future.

ENERGY SUSTAINABILITY

- Advance fluid dynamics
- Bio-energy
- Heat integration and simulation
- Solar cells
- Green hydrogen
- Thermal management.

MATERIALS AND NANOTECHNOLOGY

- Advanced materials
- Nanocatalysis
- Ionic liquids
- Membrane technology
- MEMS sensors
- Wearable electronics
- Molecular dynamics simulation.

MEDICAL ENGINEERING AND BIOLOGICAL SCIENCES

- Biosensors
- Biocatalysis
- Biophysical and physiological studies
- Drug delivery
- Image analysis for disease prediction
- Protein separation.

SMART INDUSTRY AND LIVING

- Autonomous systems
- Condition monitoring
- Condition monitoring and fault diagnosis
- Optimisation
- Robotics and automation.

COMPUTATIONAL INTELLIGENT SYSTEMS

- Big data
- Computer vision
- Digital healthcare
- Internet of Things
- Machine learning
- Virtual reality.

CRITICAL INFRASTRUCTURE

- Sustainable drainage and flood management
- Transport and traffic
- Building materials
- Geotechnics.

WASTE AND ENVIRONMENT

- Biogas and biomass conversion
- Carbon capture and utilisation
- Solid waste management
- Wastewater treatment.

INTELLIGENT LIGHTING

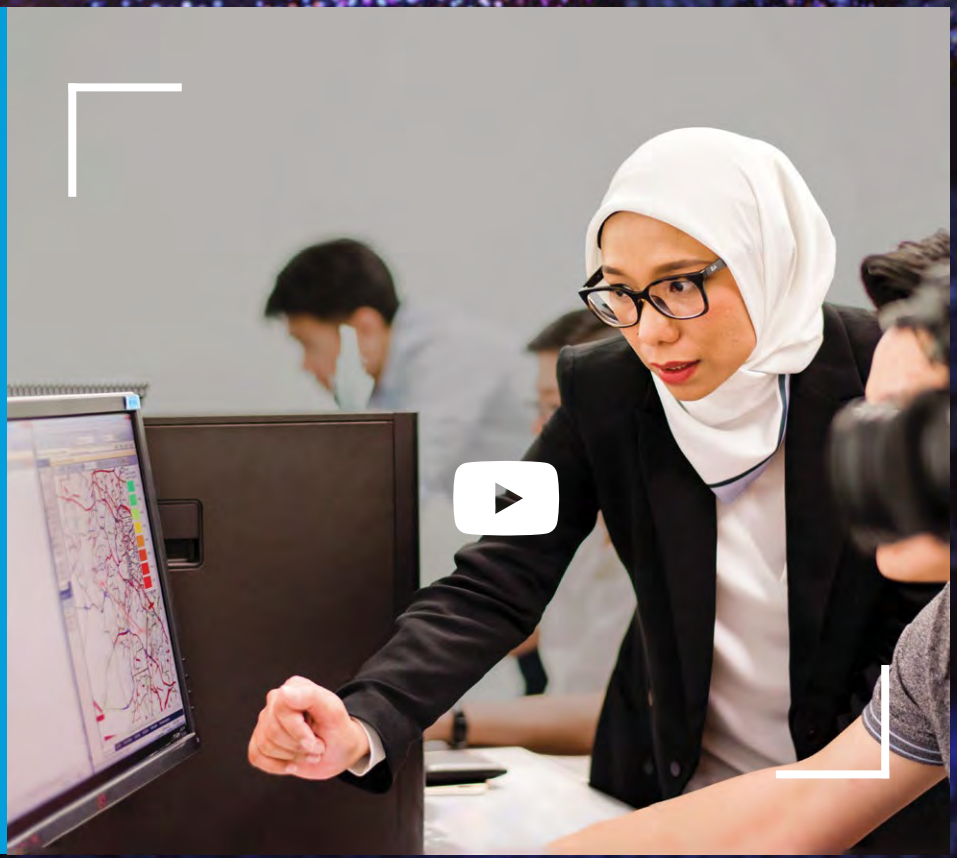
- Facial expression
- Gesture recognition
- Smart lighting for home
- Visible light communications.

ALLEVIATING TRAFFIC CONGESTION

Traffic congestion costs Malaysia RM13 billion yearly in lost productivity, wasted fuel and environmental damage. Dr Susilawati's research is looking into coordinating traffic signals to reduce up to 100 seconds in travel time for each driver. She's part of a multidisciplinary research team at Monash that is developing an intelligent transportation ecosystem to ease traffic congestion and reduce carbon emissions.

Watch to learn more.

SCAN TO WATCH



2 years (full-time)
4 years (part-time)*

Throughout the year
(subject to availability of supervision)

Research

RM48,480 Malaysian student
RM54,720 International student
2026 fees per year

CAREER PATHS

As a Monash engineering research graduate, your career possibilities are not only exciting but also diverse. You can work in fields like:

- biotechnology
- building and construction
- computer programming
- food processing
- industrial electronics
- manufacturing
- mining
- nanotechnology
- power generation
- robotics
- sustainable technologies
- telecommunications
- transport.

* Part-time study is not available for international students.

MASTER OF ENGINEERING SCIENCE (RESEARCH)

KPT/JPT (R3/0710/7/0001) 07/28 - MQA/SWA0112

This research degree is a truly global qualification that provides you with the grounding to delve deeply into engineering challenges and create solutions for the future.

During your candidature, you'll develop specialised knowledge and skills in your chosen area that will enable you to address national issues and global needs, and improve the way of life in local communities. You'll achieve this by undertaking substantial independent research on your chosen topic with support from a supervisory team and producing a major thesis that will make a contribution to the current body of knowledge.

Whether you want to get ahead in your career faster or improve your knowledge, this Monash postgraduate degree will give you a distinct advantage.

Areas of study

- Advanced materials
- Artificial intelligence
- Bioinspired systems
- Biomechanics
- Bioprocess engineering
- Critical infrastructure
- Energy
- Engineering in medical and healthcare
- Environmental engineering
- Food and pharmaceutical processing
- Future wireless access technologies
- Intelligent lighting
- Management of natural resources and phenomena
- Nanoelectronics
- Nanotechnology
- Optical communications and photonics
- Process modeling, simulation and optimisation
- Smart manufacturing and industry 4.0
- Sustainable drainage and flood management
- Sustainable transportation engineering
- Thermal management
- Waste management.

Course structure

This course consists of a research and thesis component.

“I chose Monash for its strong research culture and global recognition. I had the opportunity to dive into meaningful research, work with passionate academics, and build a solid foundation in problem-solving and critical thinking that continues to shape my journey. My supervisor was both supportive and intuitive, always knowing when to guide me and when to challenge me. It really strengthened my passion for research and problem-solving.”

SHELLEY YAP

Bachelor of Mechanical Engineering (Honours)
Master of Engineering Science (Research)

DOCTOR OF PHILOSOPHY

KPT/JPT (N/0700/8/0001) 08/31 - MQA/SWA17709

The opportunity to take up independent research through the Monash Doctoral Program is one of the most challenging and rewarding experiences we can offer you.

The program consists of an extensive, independent research project in your discipline of choice, supported by a minimum of two academic supervisors throughout your candidature. Your study will result in a research thesis which makes a valuable contribution to the current body of knowledge on your chosen topic.

Areas of research

- Advanced materials
- Artificial intelligence
- Bioinspired systems
- Biomechanics
- Bioprocess engineering
- Critical infrastructure
- Energy
- Engineering in medical and healthcare
- Environmental engineering
- Food and pharmaceutical processing
- Future wireless access technologies
- Intelligent lighting
- Management of natural resources and phenomena
- Nanoelectronics
- Nanotechnology
- Optical communications and photonics
- Process modeling, simulation and optimisation
- Smart manufacturing and industry 4.0
- Sustainable drainage and flood management
- Sustainable transportation engineering
- Thermal management
- Waste management.

Course structure

The course consists of:

- a research and thesis component
- a coursework study.

3 – 4 years (full-time)
6 – 8 years (part-time)*
Your PhD research project is to be conceived from the outset as clearly achievable within three years equivalent full-time, and you're expected to complete your degree within three to four years equivalent full-time.

Throughout the year
(subject to availability of supervision)

Research

RM48,480 Malaysian student
RM54,720 International student
2026 fees per year

CAREER PATHS

You'll have a highly respected qualification that positions you well for employment in multinational corporations, government and non-governmental organisations, and universities. You can work in fields like:

- biotechnology
- building and construction
- computer programming
- food processing
- industrial electronics
- manufacturing
- mining
- nanotechnology
- power generation
- research and education
- robotics
- sustainable technologies
- telecommunications
- transport.

* Part-time study is not available for international students.

"I was fortunate to participate in several international conferences to present my research and learn from scholars worldwide. These events broadened my academic perspective and provided invaluable networking opportunities. Attending a conference in Romania, and getting to travel across Europe and the UK, was an unforgettable experience. It's a memory I'll always cherish."

DR NEW ENG KEIN

Bachelor of Chemical Engineering (Honours)
Doctor of Philosophy (Chemical Engineering)
Key Account Manager, Linde Malaysia

At Linde, Eng Kein manages major industrial gas clients, delivering efficient and cost-effective supply solutions. His research at Monash focused on converting palm oil residues into valuable bio-derived products, using a green solvent for a more sustainable approach. His ultimate goal is to help build a future where industries are not only profitable but also responsible stewards of the environment.

ENTRY REQUIREMENTS

ENGLISH PROFICIENCY TESTS

Monash University accepts:

- IELTS (Academic)/IELTS One Skill Retake (Academic)/ IELTS Online – Overall band score of 6.5 with no band less than 6.0. **www.ielts.org**
- TOEFL iBT/TOEFL iBT Paper Edition – A total score of 79 with 12 in Listening, 13 in Reading, 21 in Writing and 18 in Speaking. **www.ets.org**
- Pearson Test of English (Academic) – Overall score of 58 with no Communicative Skills lower than 50. **www.pearsonpte.com**
- C1 Advanced/C2 Proficiency – Overall score of 176 with no skill score lower than 169. **www.cambridgeenglish.org**
- Monash English (selected courses)

Higher scores are required for the Doctor of Philosophy. Visit **monash.edu.my/research-english-req**

Tests must be taken within 24 months prior to the course commencement date.

FEES

All tuition fees and course durations specified in this guide are in Malaysian Ringgit and only apply to courses studied at the Malaysian campus. The tuition fees quoted are for 48 credit points and are applicable to courses commencing in 2026. Tuition fees for courses commencing in 2027 will be different. Monash University Malaysia reserves the right to adjust the annual tuition fees in future years of your course. Any adjustment will be applied on the first day of January each year.

Effective 1 July 2025, the Malaysian Government has expanded the Sales and Service Tax (SST) framework to include education services for international (non-Malaysian) students. This means a 6% service tax will apply to tuition and other related education fees charged by private higher education providers, including Monash University Malaysia. The fees listed in this guide exclude the service tax.

GENERAL FEES

Application (once only)	AUD37 (My.App portal) RM100 (other payment methods) Malaysian citizen AUD40 (My.App portal) RM106 (other payment methods) Non-Malaysian citizen
Registration (once only)	RM200
General amenities (per semester)	RM100

International student pass
Visit **monash.edu.my/student-pass**

Need help with your application?
Contact us:

mum.enquiry@monash.edu

+60 3 5514 6000

Live Chat (Weekdays from MYT 9am to 5pm)
ask.monash.edu.my

Course	Study mode	Duration	Intakes	2026 fees		Prerequisites and additional requirements
Bachelor of Biomedical Engineering (Honours)[6]		4 years	February	Malaysian student **RM54,720** (per year)	International student **RM64,800** (per year)	English (Monash's minimum requirements apply) Higher level Mathematics and one of Chemistry or Physics (Australian Year 12) *Meeting the Monash course prerequisites are also subject to the five year rule.*
Bachelor of Chemical Engineering (Honours) Bachelor of Civil Engineering (Honours) Bachelor of Electrical and Computer Systems Engineering (Honours) Bachelor of Materials Engineering (Honours)[6] Bachelor of Mechanical Engineering (Honours) Bachelor of Robotics and Mechatronics Engineering (Honours) Bachelor of Software Engineering (Honours)		4 years	February, July and October	Malaysian student **RM54,720** (per year)	International student **RM64,800** (per year)	
Master of Applied Engineering	Coursework	1 year (full-time) 2 years (part-time)	February and July	Malaysian student **RM57,120** (full course)	International student **RM65,280** (full course)	
Master of Engineering Science (Research)	Research	2 years (full-time) 4 years (part-time)	Throughout the year. Subject to availability of supervision.	Malaysian student **RM48,480** (per year)	International student **RM54,720** (per year)	
Doctor of Philosophy	Research	3-4 years (full-time) 6-8 years (part-time)	Throughout the year. Subject to availability of supervision.	Malaysian student **RM48,480** (per year)	International student **RM54,720** (per year)	

1 The Malaysian Qualification Agency (MQA) accepts a minimum D Grade in A Level to be equivalent to the STPM Pass grade. For more information, visit **monash.edu.my/study/entry-requirements/academic/undergraduate/calculating-entry-scores**

2 The undergraduate entry requirements published in this guide are for students who commenced the MUFY program in 2025.

3 Diploma of Higher Education Studies and Monash College Diploma Part 2 provide a pathway into the second year of the corresponding undergraduate studies.

4 The Monash College Diploma Part 2 entry requirements published in this guide are for students commencing their undergraduate destination degree in 2026.

5 Please refer to **priorstudy.monash.edu/prior-study/** for the full entry score.

6 This is a four-year degree where you will study your first two years in Malaysia and your final years at our Clayton campus in Melbourne, Australia. Following completion of the first two years of Bachelor of Engineering (Honours) in Materials Engineering, students must transfer to the Clayton campus via campus transfer for the remaining two years. WAM 50% is a transfer condition.

HOW TO APPLY

Undergraduate/Coursework degrees

1. Apply monash.edu.my/apply-online
2. Your application is assessed
3. Accept your offer monash.edu.my/accept

Malaysian students

4. Arrange for accommodation (if required)
5. Participate in orientation monash.edu.my/orientation

International students

4. Apply for your student pass monash.edu.my/student-pass
5. Your student pass is approved
6. Apply for single entry visa (if required)*
7. Plan your arrival monash.edu.my/lets-begin
8. Participate in orientation monash.edu.my/orientation

Research degrees

1. Check your eligibility and find your supervisors
2. Submit an Expression of Interest monash.edu.my/EOI
3. Receive an invitation to apply and lodge a formal application monash.edu.my/apply-graduate-research
4. Your application is assessed
5. Accept your offer

*Please refer to the Education Malaysia Global Services's website for more information on SEV required countries: **visa.educationmalaysia.gov.my/guidelines/sev-required-countries.html**

QUALIFICATION	GLOBAL		AUSTRALIA					CANADA	CHINA	HONG KONG	INDIA		INDONESIA				MALAYSIA				SRI LANKA	VIETNAM
			MONASH										SMA3[5]									
	GCE A Level[1]	International Baccalaureate (IB) Diploma	Monash University Foundation Year[2]	Diploma of Higher Education Studies (DHES)[3]	Monash College Diploma Part 2[3,4]	ATAR	UNSW Foundation Studies	Ontario Secondary School Diploma	Gaokao	Hong Kong Diploma of Secondary Education	All India Senior School Certificate Examination	Indian School Certificate Examination	KKM 65	KKM 70	KKM 75	KKM 80	STPM	UEC	Program Matrikulasi (Matriculation Program)	Foundation in Science and Technology, Sunway College	Sri Lankan General Certificate of Education (Advanced Level)	High School Diploma
	10	30	76.25%	N/A	60%	85	8	84.8%	75%	19	80%	75%	85%	87.5%	88%	90%	9.1	≤3.4	3	75%	12	8.42

- An Australian 4-year bachelor's degree (or equivalent) in engineering, in a discipline related to the chosen specialisation within the Master's course, as approved by the Faculty, with at least a credit (60%) average.
- Meet the English language requirements of the University (Monash English is accepted).

- Successfully completed a four-year Bachelor of Engineering or a bachelor's degree of at least four years in a relevant discipline, which includes a research thesis or project, with a minimum overall average grade of an honours degree equivalent to the Second Class Honours Division B with mark of 65 or above; or
- A master's degree in a relevant discipline which includes a research thesis or project equivalent to at least 25 percent of one year of full-time study, with a minimum overall average grade of an honours degree equivalent to the Second Class Honours Division B with mark of 65 or above; or
- A qualification, or combination of qualifications and relevant professional experience, deemed equivalent by the GRC (or delegate).
- Meet the English language requirements of the University.

- Successfully completed a four-year Bachelor of Engineering or a bachelor's degree of at least four years in a relevant discipline, which includes a research thesis or project, with a minimum overall average grade of an honours degree equivalent to the Second Class Honours Division B with mark of 65 or above; or
- A master's degree in a relevant discipline which includes a research thesis or project equivalent to at least 25 percent of one year of full-time study, with a minimum overall average grade of honours equivalent to the Second Class Honours Division A; or
- A qualification, or combination of qualifications and relevant professional experience, deemed equivalent by the GRC (or delegate).
- Meet the English language requirements of the University.

Entry requirements are subject to change. Please refer to **monash.edu.my** for the latest updates.

MONASH University

MALAYSIA

CONTACT US

Business hours
Monday to Friday 9.00am – 5.00pm

Counselling hours for course enquiries
Monday to Friday 9.00am – 5.00pm

Closed on weekends and public holidays.

Enquiries
T +60 3 5514 6000
F +60 3 5514 6001
E mum.enquiry@monash.edu

Address
Monash University Malaysia
Jalan Lagoon Selatan
47500 Bandar Sunway
Selangor Darul Ehsan
Malaysia

monash.edu.my

MonashMalaysia

The information in this brochure was correct at the time of publication (November 2025). Monash University Malaysia reserves the right to alter this information should the need arise.

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(Date of establishment: 20 March 2000)

CONNECT WITH US

Register to receive information about study options, Monash life and upcoming events.

monash.edu.my/study/register

READY TO APPLY?

monash.edu.my/apply-online

HELP US TO REDUCE WASTE.

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