Engineering - Everything you need to know to succeed in your degree (Undergraduate)

Wednesday 19 July 2023
10am - 12pm

Ask Questions:
flux.qa/AC3VRS
Acknowledgement of Country

We wish to acknowledge the people of the Kulin Nations, on whose land Monash University operates.

We pay our respects to their Elders, past, present and emerging.
Session format

1. Welcome - Dean, Professor Yiannis Ventikos
2. Academic expectations - Assoc Prof Jonathan Li
3. FaME - Rashmika Undogodage & Luigi Cortez
4. Engineers Australia - Veranga Ranaweera
5. BREAK
6. Course information - Andrea Waller
7. CPD & How Monash can help you build job skills - Theresa Scott
ACADEMIC EXPECTATIONS
Assoc Prof Jonathan Li

CHALLENGES

1. Learning style
   • You will need to be a proactive learner - we facilitate your learning, but do not force you to learn
   • Learning format - workshops, practical classes, labs

1. Seeking support
   • Support is available but you have to ask
   • Lecturers don’t always ‘know’ students. Some classes in engineering could have around 700 students.

1. Motivation
   • You must motivate yourself to study
   • Your lecturer will typically not follow up with you if you don’t submit an assignment.
ACADEMIC EXPECTATIONS
Assoc Prof Jonathan Li

CHALLENGES

4. Time commitment

• Each 6-credit point unit requires a total of 12 hrs study commitment a week
• 12 hours = approx. 5 hours of lectures/classes + 7 hours in private study (assignments, lecture revision, class preparation etc)

This means a full time university load is 48 hours/week

• Engineering is a very challenging course, with lots of practical and teamwork...
• Most students that fail units report that they are unable to devote sufficient time to study

If you are unable to devote sufficient time due to work commitments or other responsibilities, consider taking less units in a semester (“under-loading”)

• Talk to our student support services to work out a course map to enable you to succeed...
ACADEMIC EXPECTATIONS
Assoc Prof Jonathan Li

IMPLICATIONS FOR FAILING UNITS

From 2022, local students on Commonwealth Supported Places (CSP) are subjected to the Australian Government’s “Job-ready Graduates Package”

Students who have a “low completion rate” will lose their CSP...


What is a low completion rate?

A low completion rate is a fail rate of more than 50 per cent of the units of study you have attempted, after you have attempted eight or more units of study in a bachelor level or higher course (or four or more units in a higher education course lower than a bachelor course.)

These changes will take effect in 2022.

What happens if I have a low completion rate?

If you have a low completion rate in 2022 or thereafter, you will not be eligible for Commonwealth assistance (studying in a CSP or getting HELP loans for your study).

If you have a low completion rate, you can:

- continue your course by paying upfront. If you pay upfront and increase your completion rate to 50 per cent or higher, you will be eligible for Commonwealth assistance for your course again.
- transfer to a new course at the same or a different provider. If you change to a new course, your previous completion rate will not carry over and you will able to access Commonwealth assistance for your new course.
- apply to your provider for consideration for one or more of your failed units. For your provider to not count units you have failed when calculating your completion rate, you will need to prove that ‘special circumstances’ applied to you while you were studying those units.

These changes will take effect in 2022.
WHO DO YOU GO TO AND HOW DO YOU CONTACT THEM?

**ACADEMIC SUPPORT**

**Chief Examiner & Lecturers**
- Oversees teaching and administration of the unit
- Is listed in the handbook
- Is responsible for results and feedback on assessment for your unit
- Answers your questions about the unit content and assessments

**Contact**
- Access Discussion Forums through Moodle
- In regular Unit Consultation sessions
- By email (individual queries)

**Demonstrator, Practice Class Assistant or Teaching Associate**
- Assists you in class and online with completing learning activities
- Answers your questions about the unit content and assessments
- Helps you to strategise to solve engineering problems, perform calculations, complete worked examples
- Gives you feedback on your work in class
- Does not necessarily know everything – may escalate to lecturer!

* Moodle lists the weekly requirements for your units, recordings you should watch, and scheduled Zoom sessions. Make sure you check Moodle regularly to stay up to date.*
DISCIPLINE BASED SUPPORT

Assoc Prof Jonathan Li

FIRST YEAR LEARNING SUPPORT

The First Year Lounge is a great place to go for resources for success in first year.
Your units will hold regular consultation sessions – the times will be advertised on Moodle.

MATHS LEARNING CENTRE (MLC)

All students currently enrolled in a mathematics class are also enrolled in the Moodle page for the MLC, where they may access online support.
English Connect runs several free English language programs focusing on developing communication skills, and academic and conversational language in cultural contexts.

Find out more about online programs that assist you with public speaking, grammar and making friends!

- Let's Chat - online
- Academic English - online
- Academic English workshops – online
Computer specifications

You are strongly advised to purchase a PC laptop for your Engineering study. Apple Mac is not suitable or recommended as some software required for your study are compatible only with PC.

Minimum PC requirements:
- 15.6" screen
- i7 processor
- 16GB RAM (32GB recommended)
- 512GB SSD (1TB SSD recommended due to the various large engineering programs)
- Dedicated graphics processor (Eg Intel Iris Xe, NVIDIA GeForce GTX 1650, NVIDIA GeForce RTX3050Ti. Integrated graphics processors, such as Intel UHD Graphics, are NOT recommended).
- Inbuilt camera and mic (Headset with boom mic recommended)
Peer Assisted Study Sessions (PASS)

PASS is an academic mentoring program of guided study groups facilitated by current students.

The program aims to help you with:
• What to learn (unit content)
• How to learn (developing study skills)
• Keeping you up-to-date and motivated in your studies
• Establishing study groups and friendships to enrich your student life

Engineering

- ENG1005 - Engineering mathematics
- ENG1011 - Engineering methods
- ENG1013 - Engineering smarter systems
- ENG1014 - Engineering numerical analysis
- PHS1002 - Physics for engineering

PASS participant sign-up begins: 24 July 2023, 10am
Program commences: Monday 31 July 2023

For Double Degree students, there are also a number of Semester 2 PASS units available.
Using **Sustainable Smart Cities** as a contextual focus, our First Year program will give students exposure to both:

- the fundamental engineering concepts that underpin sustainable smart cities, for example:
  - the construction of safe and sustainable structures (in ENG1011)
  - the design of critical water treatment processes and the ethical, environmental and sustainability considerations of such systems (in ENG1012)
  - the software and electrical systems required to enable it all to work in a coordinated manner (in ENG1013)
  - how to use computers to solve complex numerical problems that arise in engineering (in ENG1014)
  - how to use mathematics to model these problems and to be able to solve them (in ENG1005)

- the critical engineering design processes required to solve problems:
  - examining how complex problems can be addressed and the approaches used to reduce complexity at the expense of certainty and accuracy (in ENG1011)
  - examining how to deal with a complex design problem with multiple potential solutions, which requires creativity to solve albeit within a structured framework (in ENG1012)
Sustainable Smart Cities...

• United Nations Economic Commission for Europe (UNECE) & International Telecommunication Union (ITU) definition:

“A smart sustainable city is an innovative city that uses ICTs* and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social, environmental as well as cultural aspects.”

* ICT = Information & Communications Technologies

• With the right design, sustainable smart cities can be beautiful places to live, and are considered imperative for global sustainability as population density can enable:
  • efficiencies of scale – leading to better resource usage and waste management
  • less essential mobility – lowering CO₂ emissions
Monash Engineering First Year Structure

ENG1011: Engineering Methods
- Structural engineering
- Materials properties
- Build & Test
- Simple machines
- Analysis

ENG1012: Engineering Design
- The Design Process
- Environmental
- Chemical
- Fluid Mechanics
- Humanitarian

ENG1013: Engineering Smart Systems
- Mechatronics
- Circuit Design
- Hardware development
- Systems approach

ENG1014: Engineering Numerical Analysis
- Numerical methods
- Dynamical systems
- Validation
- Ethical behavior

ENG1005: Engineering Mathematics

Entrepreneurship

Chemistry
- Teamwork
- Communication
- Leadership
- Attitudes, thoughts and Learning

Physics

Electives
- Innovation
- Sustainability

Engineering Numerical Analysis
- Engineering Design
- Engineering Systems
- Engineering Thinking
Through problem solving and hands-on learning, Student Engineers will develop their critical Engineering thinking related to simple structural and mechanical systems and their optimum material selection.

Structural Member Analysis and Design

- Free body diagrams and equilibrium will be used to solve for forces in simple truss and beam systems

Machines and Mechanisms

- Free body diagrams and equilibrium will be used to solve for forces in simple machines (e.g. pulleys, levers, gears)

Material Selection & Sustainability

- Determine the strength of structural materials to inform engineering designs with considerations to performance, cost, sustainability, and societal impact
ENG1011: Engineering Methods

Chief Examiners
Tony Vo (S1)
Lizi Sironic (S2)

ENG1011
Meccano bridge with 3D printed parts
Structures and mechanisms
ENG1012: Engineering Design

Student Engineers will use multidisciplinary technical knowledge and design thinking to develop a viable design solution to a real-world challenge based on a design brief, developed with an Engineers Without Borders (EBW) community partner.

Through an Open Ended Design Project - the students will learn how to:

1. Define a problem, create innovative conceptual designs, prototype and refine proposed solutions.
2. Embed the Indigenous, Environmental and Sustainability perspective into their design.
3. Pitch their ideas to stakeholders within communities and their team members.
4. Consider the Social and Ethical aspect of their proposal.
5. Reflect on their teamwork, professional identity and interpersonal skills development.

In 2022, EWB Challenge in partnership with Dawul Wuru Aboriginal Corporation.

Chief Examiners
Nicoleta Maynard (S1)
Simon Corrie (S2)
ENG1012: Engineering Design

The Issue
- Human and natural threats
- Fishing nets
- Boats
- Low tides
- Water quality and habitat degradation

The Solution
- An expandable tank functioning like drawer system.
- Compartment on the side of tank A.
- Filtration system, oxygen pump and PH monitoring system running on portable solar panels.
- Galvanized stainless steel and soda lime.
- 300L when contracted and 552L when expanded
- 75Kg

ENG1012
Dugongs and Sea Turtle Rescue
EWB design challenge, ethics, sustainability
ENG1013: Engineering Smart Systems

Student Engineers will learn about the critical role of software and electronics in “Smart Systems”, which refer to the use of sensors, software, electronics and actuators to enable new and existing systems to perform smart actions. They are increasingly used in key sectors such as transportation, healthcare, energy, safety, security, logistics, ICT and manufacturing.

In this unit, through a hands-on semester long project, Student Engineers will learn:

Software design

- Programming fundamentals in Python to process data from sensors and control computer hardware

Electrical design

- Electrical fundamentals required to analyse, design and build circuits that perform smart functionality
ENG1013: Engineering Smart Systems

ENG1013
Traffic lights, HVAC, Tank monitoring
Smart systems
ENG1014: Engineering Numerical Analysis

Student Engineers will learn about the role of computing and modelling in understanding physical systems (*Assumes prerequisite knowledge equivalent to (VCE) Specialist Mathematics or ENG1090 Foundation Mathematics)

**Introductory coding**
- Matlab language will be used to introduce coding basics at a level suitable for those who have not coded before

**Engineering Dynamics**
- Introductory kinematics, kinetics and energy-based methods for analysing motion of objects, including non-equilibrium systems

**Numerical methods**
- Basic methods for solving complex systems numerically
- Concepts such as convergence to a solution, truncation errors, computational complexity of different algorithms
MOODLE

- “Moodle” is the university’s “Learning Management System” (LMS)
  - All unit content, assessment and communications are hosted on Moodle

- Access Moodle at: https://lms.monash.edu or through the tile at https://my.monash
  - Useful tip: Bookmark individual units in your browser for quick access

- Regularly access Moodle to check for announcements and deadlines
Peer mentoring program that supports the transition of Engineering students into university whilst fostering new connections and enhancing their social and academic experiences.
WHAT IS PEER MENTORING IN 3 WORDS?

Mentees, Mentors & Community
All upcoming events will be posted on the MESS First year facebook page!
Next Steps!

Step 1
Activate your profile using the QR code

Step 2
Check out the Mentee Handbook for more info!
Student Membership with Engineers Australia is FREE!

Engineers Australia student membership provides you with access to industry leaders, contacts, career pathways, resources and job opportunities you won’t find anywhere else.

Join today!
Student membership gives you:

- Ability to raise your professional profile and a head start to your career
- Connection to the biggest engineering communities (globally and locally)
- Access to our members-only Jobs Board, including our engineering virtual work experience modules
- Access to our members-only Internships Hub
- Networking and Training Events
- Post-nominals
- Opportunity to join Colleges, Technical Societies and Special Interest Groups
- Monthly Digital Create Magazine
- Access to some of the best engineering resources in the world through the EA library.

Join today!
Be a part of something special

Access our members-only jobs board
Your one stop for engineering internships, graduate and early career roles.

Access our members-only Internships Hub
Everything you need to know about finding and completing an internship as part of your studies

Virtual work experiences
Developed to help bridge the gap between university theory and working practice

Connection to a network
More than 100,000 engineers of all disciplines from all the major engineering employers in the country.
Student Membership is FREE

Find your edge
We offer everything that you need to be the best engineer you can be.

Build the skills employers need
We know what employers want and will work with you to develop these skills. Our virtual work experience modules will help you can stand out and hit the ground running.

Get the job you want
Take advantage of our members-only jobs board & internships hub— they will open a whole new world of opportunities for you including internships, work experience, graduate and early career roles.

Build your community
Building a professional network is critical. We connect you with other emerging engineers and senior leaders in your field.

And so much more...

Join today!
Break
Student Engagement and Academic Services

Andrea Waller
Manager
Student Engagement and Academic Services
Faculty of Engineering
Engineering Course structure - Ms Andrea Waller

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Common first year</th>
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<tbody>
<tr>
<td></td>
<td>You commence engineering and acquire knowledge in core disciplines, design and teamwork</td>
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<tr>
<td></td>
<td>Specialisation selection at the end of the common first year (except Biomedical engineering)</td>
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</table>

**Choose your specialisation**

We run an online fair every semester where we showcase each specialisation. You’ll have a chance to talk to academics at that time about the structure of the course, career opportunities etc. Levels 2, 3 and 4 are taken in your specialisation.

<table>
<thead>
<tr>
<th>Level 2</th>
<th>Builds basic theory and further design skills</th>
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<tbody>
<tr>
<td>Level 3</td>
<td>Extends theory and design into more complex, professional scenarios</td>
</tr>
<tr>
<td>Level 4</td>
<td>Provides specialised electives and a final year project</td>
</tr>
</tbody>
</table>

- Each unit = 6 credit points. You must pass 192 credit points from the prescribed course map to complete the course for the single degree.
- Save your [2023 course map](#) electronically so you can map out your enrolment and follow your course progression.
- As you progress through your course, you can update the course map with units you are enrolled in and units you have passed. If you need course advice, you can attach a copy of the annotated map to your course advice [enquiry](#).
- Course maps are embedded with links to the handbook entry for each unit (prerequisites, semesters etc). Use this information when you are planning for your future enrolment.
Foundation units

The sequencing of engineering units is dependent on the level and competence in maths and physics you enter the course with. For this reason, the course maps are more critical to course advice than the handbook. We don’t tend to reference the handbook if a course map exists. A first year course map exists online with all the foundation unit enrolment scenarios available.

<table>
<thead>
<tr>
<th>ENG1090 Foundation mathematics / MTH1020 Semester 2</th>
<th>PHS1001 Foundation physics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equivalent to VCE Specialist Maths units 3 &amp; 4</td>
<td>Equivalent to VCE Physics 3 &amp; 4</td>
</tr>
<tr>
<td>Offered Sem 1 only</td>
<td>Offered Sem 1 only</td>
</tr>
<tr>
<td>If need in Sem 2 MTH1020 is roughly equivalent</td>
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</tbody>
</table>

If you have taken Gao Kao Maths you should enrol in Foundation maths. You don’t need to take foundation maths if you’ve completed:

- VCE Specialist Maths (score of ≥30)
- IB higher level maths (4 or above)
- A Level mathematics (B or above)
- MUFY Advanced Maths 1 & 2 (≥ 65%+)
- Monash College Diploma of Engineering Part 2
- or any higher-level university maths with calculus (pass grade).

Enrolment in ENG1090 impacts enrolment:
- ENG1005 and ENG1014 pushed to Sem 2

You don’t need to take foundation physics if you’ve completed:

- VCE, IB or A Level Physics (pass grade)
- MUFY Physics (≥ 65%+)
- Physics at a tertiary level (pass grade)
- Monash College Diploma of Engineering Part 2
- AP Physics 1 and 2 (pass grade) - if you have only completed Physics 1 or Physics C you must take PHS1001 Foundation physics.

Enrolment in PHS1001 impacts enrolment:
- ENG1005, ENG1011 and ENG1014 pushed to Sem 2

Equivalent to VCE Specialist Maths units 3 & 4
Equivalent to VCE Physics 3 & 4
Offered Sem 1 only
Offered Sem 1 only
If need in Sem 2 MTH1020 is roughly equivalent
Offered Sem 1 only
If you have taken Gao Kao Maths you should enrol in Foundation maths.
You don’t need to take foundation maths if you’ve completed:

- VCE Specialist Maths (score of ≥30)
- IB higher level maths (4 or above)
- A Level mathematics (B or above)
- MUFY Advanced Maths 1 & 2 (≥ 65%+)
- Monash College Diploma of Engineering Part 2
- or any higher-level university maths with calculus (pass grade).

Enrolment in ENG1090 impacts enrolment:
- ENG1005 and ENG1014 pushed to Sem 2

You don’t need to take foundation physics if you’ve completed:

- VCE, IB or A Level Physics (pass grade)
- MUFY Physics (≥ 65%+)
- Physics at a tertiary level (pass grade)
- Monash College Diploma of Engineering Part 2
- AP Physics 1 and 2 (pass grade) - if you have only completed Physics 1 or Physics C you must take PHS1001 Foundation physics.

Enrolment in PHS1001 impacts enrolment:
- ENG1005, ENG1011 and ENG1014 pushed to Sem 2
There are three different types of electives in the BE(Hons) single degree

1. Engineering elective
   - Taken at level 1 in the BE(Hons) and is selected from a pool of level 1 and 2 Eng, IT and Science units relevant to engineering
   - Here you can find the list of Level 1 electives
   - BMS1021 can be taken as the Eng elective at Level 1. This unit is a compulsory at level 1 for the biomed specialisation and will ensure students can select this specialisation at the end of level 1 (keep options open).

2. Free elective
   - Selected from units from across the University
   - Available at levels 1 and 2 of the single degree (except for the biomedical engineering specialisation) only
   - Students can select another engineering elective as a free elective or one of the level 2 technical electives listed online.

3. Technical elective
   - A discipline specific engineering unit normally offered at level 3 and 4 in the single degree (except for the biomedical engineering specialisation that does not have room for technical electives)
   - Extend or complement knowledge of the engineering specialisation
   - No room for an engineering minor if technical electives are taken
   - For some specialisations Level 5 units are available. You must obtain a weighted average mark (WAM) of 65% or above at the conclusion of level 3 and be in your final year to be eligible to enrol in the level 5 units. You will not be able to enrol into these units yourself via WES, you will need to request a manual enrolment.
Complement your single engineering degree with a minor and tailor studies to explore your interests and expand your career opportunities.

**NOT AVAILABLE IN DOUBLE DEGREES OR THE BIOMEDICAL ENGINEERING SPECIALISATION**

A minor has four units studied over two years and is listed on the transcript. In the BE(Hons) single degree you can take:

An **engineering minor** in a discipline distinct from your engineering specialisation:

- Engineering minors are completed in year 3 or 4 and take the place of technical electives
- Select on WES under Areas of study **only after you have enrolled in 72 credit points**
- Engineering minors (including the units required to complete one) are listed [online](#)
- There are some limits on the combination of specialisations and minors that can be taken. These are also listed [online](#)
Masters accelerated pathway
(Also referred to as Vertical Double)

When you enrol into the BE(Hons) program, you are actually studying two separate degrees. You will complete the Bachelor of Engineering and then receive credit (if you take 2 x Level 5000 units) going into the Master of Engineering. You then only need to complete 6 units in the Master of Engineering.

- Available in the BE(Hons) specialisations: Aerospace, Chemical, Civil, Electrical and Computer Systems, Materials, Mechanical or Robotics and Mechatronics Engineering
- Available in Master of Engineering specialisations: Biological engineering, Civil engineering, Electrical engineering, Materials engineering, Management (commencing 2023) and Mechanical engineering
- Faculty communicates with the masters accelerated cohort late in third year to remind you to complete the two level 5000 units as technical electives in year 4 to ‘accelerate’ your masters degree should you choose to do it
- You cannot take an engineering minor
- Any student can technically ‘accelerate’ in the single degree by taking two level 5000 units at level 4 (you won’t have the VDBENG units set)
- Acceleration means a student underloads during the masters and pay less fees (ie pays for six units, instead of eight).

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### BE(Hons)

<table>
<thead>
<tr>
<th>Year</th>
<th>Units</th>
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<tbody>
<tr>
<td>Year 1</td>
<td>Eight units</td>
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<tr>
<td>Year 2</td>
<td>Eight units</td>
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<tr>
<td>Year 3</td>
<td>Eight units</td>
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</tbody>
</table>

Select engineering specialisation (Aerospace, Chemical, Civil, Electrical and Computer Systems, Materials, Mechanical or Robotics and Mechatronics Engineering) towards the end of the common first year.

A 65% average at the end of year 3 allows you to take two 5000 level units from the Engineering masters as two level 4 technical electives.

<table>
<thead>
<tr>
<th>Year 4</th>
<th>Masters level 5000 unit</th>
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</table>

Apply for the Engineering masters in the final semester of year 4. Request credit for the two 5000 level Engineering masters units above.

A 65% average at the completion of BE(Hons) allows students to articulate to the Master of Engineering with credit for the completed 5000 level units. You complete the remaining six units (a slightly reduced load) to complete the masters.

### Master of Engineering

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Credit for masters unit</th>
<th>Credit for masters unit</th>
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# Double degree structures

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Partner faculty double degree</th>
<th>Enrolment for first year of study</th>
<th>Specialisation selection</th>
</tr>
</thead>
</table>
| 1.      | Arts, Biomedical Science, Commerce, Computer Science, Information Technology and Law | • Six engineering units +  
• Two partner faculty units | At the end of level 1 |
| 2.      | Science                       | • Four engineering units +  
• Four science units | After three semesters of study (when the common first year of engineering is completed) |
| 3.      | Architectural Design and Design | • Combination of engineering and partner faculty units  
• The design.foundation studio units are double units (12 points)  
• There is a compulsory online OHS unit for the partner faculty component (0 points) | Specialisation confirmed in the first semester of study as each course it is only offered with one specialisation:  
• Architectural Design offered with Civil Engineering  
• Design offered with Mechanical Engineering |
| 4.      | Pharmaceutical Science        | • All Pharmaceutical Science units  
• Engineering units in level 2 | Specialisation confirmed in the first semester of study as it is only offered with Chemical Engineering |

We present an online fair every semester where we showcase each specialisation. You'll have a chance to talk to academics at that time about the structure of the course, career opportunities etc.
## Specialisations by double degree

The following table shows double degree combinations and the Engineering specialisations with which they are available.

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<td>Chemical</td>
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<td>Electrical &amp; Computer Systems</td>
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<td>Environmental</td>
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<td>Materials</td>
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<td>Robotics &amp; Mechatronics</td>
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<td>Software</td>
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</table>
In order to graduate on time you **must** follow your course map
How to access Course Advice and Assistance

The Engineering Student Services and Engagement Team and Monash Connect work in partnership to provide you with a seamless student experience.

You can access course advice and assistance either in-person or via an online enquiry.

### IN PERSON COURSE ADVICE:

Go to **Monash Connect** (located in the campus centre) for routine student services enquiries including:

- General enrolment and course advice
- Deferral & intermission
- Special consideration
- Academic misconduct
- Timetable
- Course transfer
- Underloading/overloading
- Fees
- Scholarships
- Change of residency
- Change of name
- Change of gender

Go to the **Engineering Student Services and Engagement Team** (located in the Faculty on the ground floor of 14 Alliance Lane) for complex Engineering specific course advice and student experience queries:

- One on one complex course advice
- Course structure changes
- Credit transfer
- Complex course completion queries
- Academic progress referral queries
- At risk student support
- Technical elective and engineer minors
- Specialisation selection or change of specialisation
- Continuous Professional Development queries (including special consideration)
- Engineering Career Ready Series queries

### ONLINE COURSE ADVICE

Please submit your enquiry via **Monash Connect** and it will be directed to the correct team for a response.
You must do these modules before the start of semester

**Academic Integrity module**
At Monash, we take academic integrity very seriously, so we’ve produced a module to make sure you understand why it’s important, your responsibilities, and how to conduct your university studies in an ethical manner.

**Respect at Monash online modules**
The Respect at Monash online modules help our community understand what it means to be a respectful member of the Monash community and promote an inclusive and diverse culture on campus.

**Indigenous Australian Voices module**
In this introductory module, you will learn about Aboriginal and Torres Strait Islander Australia. This module acknowledges the First Nations’ peoples whose lands our campuses are on and includes insights and experiences from Kulin Nations Elders.

What you need to do:
- Submit the agreement in [Web Enrolment System (WES)](#)
- **Complete the module** – just make sure you do this before the deadline
- Keep a copy of your proof of completion record (you'll receive this in an email).
Semester commences
Monday 24 July 2023

If you need to make any amendments:

• The last date to add a unit is **Friday 4 August 2023**
• The last date to withdraw from a unit without fee penalty is **31 August 2023**.

Please seek advice from a course adviser before discontinuing units.

For further advice you can visit Monash Connect on campus or go to
[https://connect.monash.edu/askmonash/s/](https://connect.monash.edu/askmonash/s/)
Student support services
• Resources to help you learn online.

Study skills
• Effective study
• Exam preparation
• Learning at Uni

Engineering assignments
• Writing a lab or technical report
• Oral presentation
• Poster presentation

Taking care of yourself
• Health and counselling
• International student support
• Complaints and advocacy.
Learn HQ

Your learning success is our priority! We are here to support you through one-on-one consultations, learning resources and engaging workshops that address all your learning and language needs.

Resource hub

STUDY Better
Develop new study habits, manage your tasks and time, read and study more effectively, and thrive in your classes

Build DIGITAL capabilities
Make the most of technology to study, communicate, share and create online

Understand ASSESSMENTS
Understand assessment types and requirements, explore annotated examples and use an assessment planner

WRITE like a pro
Develop your writing skills for any assessment or task, learn new writing strategies and master academic writing

Enhance your THINKING
Brainstorm, mind map and sharpen your critical thinking. Master the art of analysis and learn how to evaluate and synthesise an argument

PRESENT confidently
Deliver a successful presentation, build an impactful poster and improve your confidence in person or online through practice

COLLABORATE with others
Learn the essentials of successful group and team work. Find out what makes a team communicate, collaborate and deliver

Master academic ENGLISH
Everyone can improve their academic English. Learn new strategies for listening, reading and communicating with impact

Maintain academic INTEGRITY
Learn how to apply honesty, fairness and respect in your academic work and behaviour at Monash
STUDENT SERVICES SUPPORT

Pastoral care

If you experience any issues that affect your studies, Engineering Student Services can guide and refer you to relevant support.

We want to ensure that you are successful in your studies!

MONASH University
QUESTIONS?

Ask Questions:
flux.qa/AC3VRS
Continuous Professional Development (CPD) & how Monash can help you build job skills

Theresa Scott
Senior Coordinator
Student & Industry Engagement
Creating well-rounded engineers

Technical skills are important but soft skills will get you hired.

- Teamwork
- Communication
- Creativity
- Initiative
- Leadership
- Problem-solving
- Intercultural competence
- Emotional intelligence
ENG0001: Continuous Professional Development (CPD)

CPD is a professional practice requirement that leads to accreditation.

You must complete CPD in order to graduate.

CPD is an opportunity to:
- integrate what you learn in the classroom with real-world practice
- engage with industry
- build employability skills
- grow your professional network
How do I complete CPD?

- Complete **420 hours** of professional practice experiences outside the classroom
- **Submission 1: Written skill reflections** on how these experiences have helped you develop or apply your employability skills
- **Submission 2: CPD Assessment Questions** – your answers to questions about your experiences based around the Engineers Australia Stage 1 competencies
BUILD YOUR CPD EXPERIENCE HOURS

START FROM 1ST YEAR

Examples of CPD experiences

- Paid work
- Volunteering
- Virtual internships
- Unpaid work experience
- Active membership in teams, clubs and societies
- Hackathons
- Networking
- Completing a short course online or in-person
- Attending seminars
- Project work for one of your units
- Also see the list of suggested CPD experiences on the website
Experience Categories

There is a more detailed list of what kinds of experiences can count in each category on the CPD website: www.monash.edu/engineering/cpd
Restrictions on CPD Hours

At least

210 hours
Engineering experiences

No more than

210 hours
Non-Engineering experiences

70 hours
Engineering Curriculum experiences

No more than

70 hours
Non-Engineering Curriculum experiences

All 420 hours can also be claimed as Engineering-related experiences
YOUR FIRST EXPERIENCE TO RECORD & REFLECT ON

Engineering Curriculum experience

An experience related to one of your Engineering units, but that is outside the classroom:

- Group assignment work
- Research
- Homework
- Assignment prep
- Preparing a class presentation

Can count up to 70 hours towards Engineering-related category for CPD
Submission 1: Student Futures Reflections

Student Futures is the platform you will use to create your written record detailing the skills you develop and apply during your CPD experiences:

- Log your experience (including provider / contact person details)
- Which CPD Category your experience belongs to
- Number of hours spent
- Upload supporting documentation if >35 hours
- Identify skill(s) gained or demonstrated in that experience
- One or more written STAR reflections for each skill identified

It’s your responsibility to justify how each experience has developed your skills
SKILLS & REFLECTIONS

Professional Practice Skills

We focus on 9 skills, and you have to write a minimum of 19 reflections:

- Communication • 3 Reflections
- Creativity & Innovation
  - Initiative & Enterprise
  - Intercultural Competence
  - Planning & Organisation
- Problem Identification & Solution
- Professionalism
- Teamwork
- Use of Tools & Technology • 2 Reflections for each skill

You can attach multiple skills to each experience and multiple reflections to each skill
Supporting Documents

You must provide supporting documents for any experience that is **35 hours or longer**

Supporting documents need to verify:
- The activity you did
- How many hours you did it for
- Supervisor / Organiser’s name and contact details

The documents might look like:
- A letter from an employer
- A certificate of completion for a short course
- An email from the organiser confirming attendance at an event
- A screenshot of the completion screen for an online experience

Supporting documents must be uploaded directly into your written record on Student Futures
Using Student Futures

- Create a written record of your experiences & skill reflections
- You can search for events and activities to attend or engage with right in the platform
- The landing page will automatically track how many hours, skills and reflections you’ve added
- There is a How-to video on the Student Futures website to help you learn to use the platform
Submission 2: CPD Assessment Questions

● Your answers to the CPD Assessment Questions is the 2nd document you need to submit for CPD
● You will complete this document in your final semester of study
● There are 6 questions to answer, where you are asked to reflect on your CPD experiences by addressing the key Engineers Australia Stage 1 Competencies
● At the end of the CPD Assessment Questions document you also need to list all of your CPD experiences greater than 35 hours & link through to the supporting documentation for each experience
When is my CPD due?

- Your CPD will be due on the Monday of Week 5 of your final semester
- Start working on your CPD early in your course though - don’t leave it to the last minute!

CPD and Academic Integrity

- CPD is an academic unit, and as such falls under Monash’s [Student Academic Integrity Policy](#)
- The Faculty of Engineering audit CPD submissions every semester to ensure there are no academic integrity issues
- Please note that there will be severe penalties for anyone caught falsifying claims on their CPD
CPD Timeline for completing the components

**Build your CPD experience hours:**
complete a minimum of 420 hours of professional practice experiences outside the classroom

**Submission 1 - Student Futures**
**Reflections:** written record detailing how your experiences have helped you develop the professional practice skills + supporting documents for experiences > 35 hours

**Submission 2 - CPD Assessment**
**Questions:** answer 6 questions about your experiences based around the key Engineers Australia Stage 1 competencies + summary of your supporting documentation

Complete these from 1st Year to Final Year

Complete this in your Final Year
Where to get more information:

www.monash.edu/engineering/cpd
Engineering Student Career Hub website

Career readiness programs and opportunities

- Engineering
- wider Monash
- external

https://unihub.monash.edu/s/eng
Engineering Career Ready Series

- Events & activities to help you develop and practice employability skills
- Workshops are delivered by industry experts and educational professionals
- Virtual Industry Sessions to connect you with industry
- Open to all Engineering students
- Flexible attendance - pick what interests you


Sign up through the website: https://unihub.monash.edu/s/eng/events
Monash Engineering Co-op Program

Kick-start Your Future Engineering Career:
- 3, 6, 12 month paid work internships
- Employability Skills Program workshops
- Develop technical skills
- Make industry connections
- Mentoring, Coaching support
- Gain hands on engineering experience
- Explore career options
- Apply classroom learning to real life context
- Develop teamwork and communication skills

Opportunity for:
- Domestic and International students (from 2nd year)
- Summer and Semester periods (3, 6 or 12 months)
- Full time or part time paid internships
Industry Based Learning (IBL)

For Software Engineering students

- 6 month placements with industry partners
- Paid via scholarship
- Counts for credit towards your degree
Monash Industry Innovation Program

- 3, 6, 12 month Innovation Projects
- Full time or Part Time Options
- Paid via Industry Scholarships
- Have an industry and Academic mentor to guide you
- Projects will be advertised on UniHub
- Apply in your 3rd year

Study while you gain valuable paid industry experience

Be part of the Monash Smart Manufacturing Hub Student Community

Get graduate ready and develop employability skills

Gain valuable Entrepreneurial skills and networks

Be able to fulfil majority of your CPD hours for your Engineering degree

Industry Innovation Program website
INTERESTED IN THE MONASH INDUSTRY TEAM INITIATIVE PROGRAM?
MITI WILL GIVE YOU A CUTTING-EDGE ADVANTAGE

You'll gain elevated teamwork skills, increased employability readiness, industry exposure and hands-on practical experience.

Email us at miti@monash.edu to express your interest.

Check your eligibility at miti.monash.edu
Summer Research Program

- 12 weeks over the summer break
- Work on a research project supervised by a Monash University academic.
- Paid by scholarship
- The Summer Research Program aims to provide participants with:
  - Experience working in depth on an area of research
  - Research and academic skills that can be applied to a future career or studies
  - An insight into what a career in engineering research might look like
- More info about 2023 - 2024 program available in August

More information: eng-gradresearch@monash.edu

Summer Research Program website
MENTORING PROGRAMS

From 1st Year to Final Year we’ve got you covered

Be mentored in 1st year - FaME program

Mentor others from 2nd year

Be coached by an engineering alumni in your final year

1st Year – be mentored by a peer

2nd year onwards – be a mentor yourself

Final year – be coached by a Monash alumni
Teams, clubs and societies, your chance to get more out of your uni experience

https://www.youtube.com/watch?v=nq9YdGwLXjs
Student Teams

- Student led
- Work towards defined competitions or missions
- Faculty provides funding and training opportunities
- Recruitment 1-2 times per year
- Membership is by application only
MONASH NOVA ROVER

Focused on designing & building the next generation Mars Rover

The only Australian team to compete in the University Rover Challenge in 2023, and placed 2nd overall!
Precious Plastics Monash (PPM)
Monash Forge (MF)
Monash High Powered Rocketry (MHPR)
Monash Human Power (MHP)
Monash Brewlab (MBL)
Monash DeepNeuron (MDN)

www.monash.edu/engineering/student-experience/teams-and-clubs
MONASH MAKERSPACE

• State-of-the-art fabrication facility and prototyping center
• Dedicated space for student teams to dream, design and make
Student Clubs & Societies

- Connect students with things in common or special interests
- Membership is open to everyone
- Organise
  - industry speakers
  - social events (trivia night, camps)
  - academic events
Monash Civil Engineering Students Association (ACES)

Women in Engineering at Monash

Materials Engineering Society

Chemical Engineering Postgraduate Association (CEPA)

Gay & Lesbian Engineers at Monash

Mechatronics Engineering Clayton Club

Monash Engineering & Pharmaceutical Science Society

Monash Engineering Students Society (MESS)

Society of Monash Electrical Engineers (SMEE)

Chemical Engineers (SMUCE)

Monash Aerospace and Mechanical Engineering Club

Monash Environmental Engineering Society

Transport Engineers at Monash

Engineers Without Borders (EWB)
Monash Career Connect

- Monash’s central career success team
- Run skill building workshops & career fairs
- Online resources & activities
- One-on-one career consultations
- Career Gateway - Current jobs posting site
- Employer information sessions

https://unihub.monash.edu/s/careerconnect
Top 3 tips for you in 1st year

1. Check out the Engineering Student Career Hub site - find information and learn about new ways to build your skills & get CPD hours

1. Get involved at Monash – Teams, Clubs & Societies, Co-op, Career Ready Series, MITI, Summer Research Program, workshops, volunteering – there is so much on campus that you can do outside of the classroom

1. Log into Student Futures and record your first CPD experience & skill reflection so you’re familiar with the format
To find out more, visit the Engineering Student Hub:

careergateway.monash.edu.au/s/eng