Bachelor of Engineering (Honours) Welcome Seminar

Dr Philip Terrill
Senior Lecturer (Electrical & Biomedical Engineering)
Deputy Associate Dean Academic (First Year)
Your journey as a student engineer

- Start your engineering studies with our flexible first year
- Select one of 6 engineering specialisations
- Consider Study Abroad or our European Double Degree program
- Alternate entry point for the integrated program
- Graduate from the BE (Hons)
- Graduate from the BE (Hons) / ME

**Flexible First Year**

**Discipline specific courses**

**Year 1**
Entry

**Year 2**
Flexible First Year
Discipline specific courses

**Year 3**
Alternate entry point for the integrated program

**Year 4**
Graduate from the BE (Hons)

**Year 5**
Graduate from the BE (Hons) / ME

Undertake Professional Practice

**EAIT STUDENT EMPLOYABILITY TEAM**

Getting you employed is our top priority. Get in touch with our Employability Team for industry networking events and workshops, personalised career-prep consultations and placement opportunities.

You can join over 220 clubs and societies at UQ

Go on site visits as part of your major

Gain an accredited degree that enables you to work anywhere in the world
Resources to help you to get started:

  - Academic planning resources
  - Support
  - Preparing for semester
  - Getting involved

- Basic UQ Terminology:
  - **Program** = degree you’re studying, e.g. B.Engineering(Hons) or dual degree
  - **Course** = subject
    - Each course has a course code (e.g. “ENGG1100”)
  - **Unit** = measure of workload of a course
    - Most courses are 2 units (and assumes a minimum of 10-12hrs work per week)
# BE(Hons) Program Structure

<table>
<thead>
<tr>
<th>Core Courses (#8)</th>
<th>Specialisation Courses (#36)</th>
<th>Major / Minor / Electives (#16)</th>
<th>#4 General Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common across Engineering</td>
<td>These are the courses that you need to complete to define the engineering discipline (“Specialisation”) you will graduate with.</td>
<td>These courses complement and build upon your specialisation. Generally done in 3rd and 4th year, but you may be able to do some courses earlier</td>
<td>Generally used in 1st year whilst you are trying things out, or catching up high school courses</td>
</tr>
<tr>
<td>Completed in 1st Year</td>
<td>Completed from 1st year to 4th year</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Option 1: Complete an Engineering Major
- #16 Major

### Option 2: Complete an Engineering Minor and Electives
- #8 Minor plus #8 of Electives in your Specialisation.

### Option 3: Maximum flexibility with all Electives
- #16 of Electives with at least #8 in your Specialisation.
BE(Hons) – Available Specialisation & Majors

Not sure which specialisation you want to do?
• No worries! You can enrol in the flexible first year to try things out, and then make up your mind by the start of second year.

Know which specialisation you want to do?
• You can focus your courses from first year.
• Some Majors also have courses you can do in first year (but you don’t need to choose major or start these until third year)

Change your mind during first year? Very Common!
Selecting Your Courses for First Year

- Priority at the moment is choosing sensible courses for your first semester.
- In most cases this will be something like:

| ENGG1100 | MATH1050 OR MATH1051 | ENGG1300/1500/1700 | ENGG1001 OR CSSE1001 OR CHEM1100 OR ENGG1300/1500/1700 |

- In many cases, your first semester (things you are interested in) will allow you to then focus (or maintain breadth) in second semester.
- Most students will be able to directly follow our Recommended Enrolment Plans. Available from:

  https://www.eait.uq.edu.au/plan-your-program-bachelor-engineering-honours
## Which Courses Do I Need to Do?

<table>
<thead>
<tr>
<th>Course</th>
<th>Flexible First Year</th>
<th>Chemical</th>
<th>Civil</th>
<th>Electrical</th>
<th>Mechanical</th>
<th>Mechatronic</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGG1100 (Intro to professional engineering)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ENGG1001 or CSSE1001</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>MATH1051 or MATH1071</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>MATH1052 or MATH1072</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Specialisation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGG1300 (Intro to Electrical Systems)</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ENGG1500 (Thermodynamics)</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ENGG1700 (Structures and Materials)</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>Other Courses</td>
<td>-</td>
<td>CHEM1100</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>MATH1061, INFS1200*</td>
</tr>
</tbody>
</table>

* MATH1061 and/or INFS1200 can be completed in second year

**Detailed Course Information:** [https://www.eait.uq.edu.au/node/13048](https://www.eait.uq.edu.au/node/13048)
Do I need to catch up Year 12 Courses?

<table>
<thead>
<tr>
<th>High School Courses or UQ Equivalents</th>
<th>Flexible First Year</th>
<th>Chemical</th>
<th>Civil</th>
<th>Electrical</th>
<th>Mechanical</th>
<th>Mechatronic</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School Specialist Mathematics or MATH1050</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>High School Chemistry or CHEM1090</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>High School Physics or PHYS1171</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
</tr>
</tbody>
</table>

- CHEM1090 is not available if you achieved a grade of B or higher in High School chemistry.
- PHYS1171 is not available if you achieved a grade of B or higher in High School physics.
- You will need EAIT Faculty permission to enrol in either of these courses (Email: enquiries@eait.uq.edu.au).
MATH1050 or MATH1051 (Semester 2 Commencement):

- Grade of A, B or C in High School Specialist Mathematics*

- Grade of D or E in High School Specialist Mathematics

- High School Mathematics Methods

MATH1051

MATH1050

*Students with a Grade of C in High School Specialist Mathematics can choose to enrol in MATH1050 if they are not confident in their mathematics ability (i.e. it is a long time since you completed high school).

If you are finding MATH1051 very difficult (and you have specialist Maths Grade of C), you can change your enrolment to MATH1050 during the first two weeks of semester.
Choosing ENGG1001 or CSSE1001

• Both these courses teach foundations of programming in Python, and share substantial resources:
  ▪ ENGG1001 teaches programming in the context of engineering modelling problems
  ▪ CSSE1001 teaches programming in a more general computing context
• While these courses are considered equivalent, and you can proceed to any specialisation with either course, to help you choose, we recommend:
  ▪ Do CSSE1001 if you are intending on continuing to Specialisations in Electrical or Software Engineering; or you are enrolled in a BCompSci or BInfTech Dual Degree
  ▪ Do ENGG1001 if you are intending on continuing to Specialisations in Civil, Chemical or Mechanical Engineering; or are in the Flexible First Year.
  ▪ If you are intending on continuing to a Specialisation in Mechatronic Engineering, choose whichever interests you the most.
### Dual Programs with BE(Hons)

<table>
<thead>
<tr>
<th>Dual Degree Bachelors of Engineering (Honours) with:</th>
<th>Total Size Of Program (#)</th>
<th>Engineering Component (#)</th>
<th>Specialisation</th>
<th>Specialisation + Engineering Major</th>
<th>Specialisation + Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Arts</td>
<td>88</td>
<td>56</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Bachelor of Biotechnology</td>
<td>80</td>
<td>56</td>
<td>Chemical Engineering Only</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Bachelor of Business Management</td>
<td>88</td>
<td>56</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Bachelor of Commerce</td>
<td>88</td>
<td>56</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Bachelor of Computer Science</td>
<td>88</td>
<td>60</td>
<td>Yes, Except Software Engineering</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Bachelor of Design</td>
<td>88</td>
<td>56</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Bachelor of Economics</td>
<td>88</td>
<td>56</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Bachelor of Information Technology</td>
<td>88</td>
<td>56</td>
<td>Yes, Except Software Engineering</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Bachelor of Mathematics</td>
<td>80</td>
<td>60</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes*</td>
</tr>
<tr>
<td>Bachelor of Science</td>
<td>80</td>
<td>60</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

- Depending on Engineering Specialisation, it may not be possible to complete all BSc majors within #80.
- Students without Specialist Mathematics and/or another high school prerequisite may be required to undertake preparatory courses, and may not be able to complete the program in the specified duration without overloading or undertaking summer study.
Courses for Dual Programs

• Planning dual programs can be hard, and it is recommended that all dual degree students meet with the first year academic advisor throughout the course of first year. However, to get started:
  - If you are doing the flexible first year, or need to catch up high school physics or chemistry, meet the First Year Engineering Academic Advisor before choosing your courses.
  - If you have already chosen your engineering specialisation:
    • Follow the dual degree recommended enrolment plans: [https://www.eait.uq.edu.au/bachelor-engineering-dual-program-structure](https://www.eait.uq.edu.au/bachelor-engineering-dual-program-structure)
    • Follow the dual degree planners where available to choose courses for your dual program (from dual degree information page).
    • These allow for one course from your dual degree each semester in first year (but if you did not complete specialist mathematics, may require you to complete MATH1052 in Summer semester)

• There are some courses from dual degrees that you shouldn’t enrol in:
  - STAT1201 or STAT1301 or ECON1310 or ECON1050
  - SCIE1000 or SCIE1100
## Integrated BE(Hons)/ME

### 5 year Integrated Program

- Can enter via QTAC, or
- Can apply internally after completing at least one year (GPA ≥ 5.0)

- Same coursework as BE(Hons) up to end of third year:

Choose your first year courses based on the BE(hons) recommended enrolment plans.


<table>
<thead>
<tr>
<th></th>
<th>BE (Hons) Year 1</th>
<th>BE (Hons) Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Final decision by end of year 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continue to BE (Hons)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apply to BE (Hons)/ME (GPA ≥ 5.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BE (Hons) Year 4</td>
<td></td>
<td>BE (Hons)/ME Year 4</td>
</tr>
<tr>
<td>BE (Hons)</td>
<td></td>
<td></td>
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<tr>
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</tbody>
</table>
Dual Degree Programs and the BE/ME

- These add 12-18 months to the duration of your program:
  - BE/ME: Adds *depth* and specialist engineering skills; and substantial research or industry placement
  - B.Math, B.CompSci, B.InfTech, B.Sc(some majors), B.Design (some majors), B.Biotech: Add *complementary* technical skills to your engineering degree
  - B.Commerce, B.Economics, B.BusMangmt, B.Arts, B.Sc(some majors), B.Design (some majors): Add *breath* to your engineering degree
- It is possible to change to or from dual programs and the BE/ME. Application time-lines apply. [https://my.uq.edu.au/information-and-services/manage-my-program/changing-what-you-study/changing-programs](https://my.uq.edu.au/information-and-services/manage-my-program/changing-what-you-study/changing-programs)
Timetables, Changing & Dropping Courses

• Class Enrolment and Allocation is via Allocate+ system via your my.UQ Dashboard: http://my.uq.edu.au/
  1. Go to ‘mySI-net’ to Enrol in chosen course
  2. Go to ‘My Timetable’ to use the allocate+ system to preference class times (Till 4pm Friday 02/07/21).
  3. Classes then allocated automatically with personal timetable released 12/7/2021
  4. Class Adjustment (12/7/21-9/8/21): Didn’t get the time you wanted, or now need to change times? Use ‘My Timetable’ to:
     • Swap to other classes if there is space.
     • Add name to waitlist to swap to preferred class
     • Contact eait.mytimetable@uq.edu.au if you still have unavoidable clashes

• Need to change courses? Go to step (1) then (4) above. Adding or swapping courses is available till Friday 6/8/2021.
• Need to drop a Courses?
  • International students MUST discuss with EAIT faculty office before reducing below #8.
  • Census date (last day to drop a course without financial liability): 31st August 2021
  • Last day to withdraw from a course without academic penalty: 30th September 2021

Save the dates. ✅
Other Enrollment & Planning Considerations

• 450 hours of Professional Practice (EPP) are required in the Bachelor of Engineering (Hons):
  - Various activities possible
• EAIT Employability Team can help!
  – Guidance and support for your Engineering Professional Practice (EPP)
  – Workshops on planning your job search strategy and applications, resumes, interviews; and individual consultations
  – Industry networking events
## Transition – Some Differences

<table>
<thead>
<tr>
<th>ISSUE</th>
<th>HIGH SCHOOL</th>
<th>UNIVERSITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priorities</td>
<td>Teachers and schools set.</td>
<td>You balance: study, work, fun ...</td>
</tr>
<tr>
<td>Study</td>
<td>Mostly in class; homework = back-up.</td>
<td>You schedule: 2 - 3 h for every h in class.</td>
</tr>
<tr>
<td>Reading/ reviewing</td>
<td>Sometimes listening in class was enough.</td>
<td>You need to review notes/ texts regularly.</td>
</tr>
<tr>
<td>Due dates</td>
<td>Teachers remind you.</td>
<td>You. Reminders not a given – use Course Profiles/ Blackboard.</td>
</tr>
<tr>
<td>Seeking help</td>
<td>Teachers approach you if they believe you need assistance.</td>
<td>You need to initiate contact for assistance.</td>
</tr>
</tbody>
</table>
| Availability of help| Teachers often available during the school day.  
Teachers primary job is teaching students in their classes | You need to make an appointment if outside scheduled course time.  
For most lecturers, teaching is only 40% of their job. |
| Missing a class   | Teachers provide you with info you missed when you were absent.             | You need to get missed notes from classmates or Blackboard.                 |
| Attending lectures| Teachers monitor class attendance.                                          | Your choice.                                                                |
| Uncertainty       | Assessment highly specified                                                 | Assessment requirements may include deliberate uncertainty                 |
Transition – Time Management

Each course is designed with the expectation you spend 10-12 hours per week of combined class/study time to pass the course.

<table>
<thead>
<tr>
<th>ISSUE</th>
<th>HIGH SCHOOL</th>
<th>UNIVERSITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class time (per week)</td>
<td>30 h (6 h/d)</td>
<td>15 to 20 h (?? h/d)</td>
</tr>
<tr>
<td>Class schedule</td>
<td>Continuous – 0900-1500</td>
<td>Not continuous – 0800-2000</td>
</tr>
<tr>
<td>Yearly commitment</td>
<td>40 weeks (4 terms)</td>
<td>2x 13-week semesters of lectures followed by 1-week for study (swot vac) and 2-weeks exams</td>
</tr>
</tbody>
</table>

- Draw up a weekly schedule of class and study time.
- Use a semester calendar to show assessment submission dates.
If you are moving out of home, this may be much more!

45 h/w .... that's more than a full time job!

Keep work <10 h/w
Secrets to Academic Success

- Maintain your sense of self worth – you got here!

- Remember your goals:
  - Long-term = degree and career
  - Medium term = pass course
  - Short term = assignment submission

- Understand what is required of you

- Use the resources provided, don’t focus only on assessment.

- Effective Study Techniques:
  - Attend
  - Participate
  - Practise, practise, practise!!!

- If you are having trouble, seek help early.

You can no more learn engineering by reading the textbook the day before the exam than you can learn to drive a car by reading a book the day before your driving test.

High grades need high effort!

3 = Fail.
Common Academic Challenges in Engineering

• A lot of the parts of studying engineering that students find challenging stem from the need to be prepared for profession where you are frequently required to work in complex teams, and manage risk and uncertainty.
  - Deliberate uncertainty in assignments/assessment
  - Challenges of working in teams: your mark, to some extent, will be impacted by the work of others
• Focussing on learning to be a better engineer when you graduate vs. focussing on just doing well in assessment
The First Year Engineering Learning Centre is a hub for all things related to First Year Engineering!

• **Physical Space: 50-C201**
  • Study space for group and individual work
  • Lisa Deacon and staff who can help and point you in the right direction for any enquiries
  • Book an academic advising appointment
  • FYELC Tutors and Mentors
  • Please pay attention to all social distancing and hygiene requirements

• **Online:**
  - Yr1eng@uq.edu.au, +61 (07) 3346 7881
  - Online presence coming soon!
Balance your Life

• Enjoy your independence!
• Ensure you have stable living and transport arrangements
• Study/Work/Social/Hobbies/Family Responsibilities
• Connect with other students: In classes, UQ Clubs and Societies

Engineering Student Societies

Student Societies not only provide a voice for the engineering student community, but also bring students together through social events and networking.
Women in Engineering: A dedicated program to support current female engineering students throughout their university journey

UQ Innovate: 2200 square metres of makerspace where you can work on university and personal projects

Getting Help And Support

• Help with your academic work?
  - Tutors in class; course coordinators; check course profile and website
  - UQ Library: workshops and support for finding information
  - UQ Student Services Learning advisors & Workshops

• Problems working out what courses to enrol in?
  - Academic Advisors: Book First Year Engineering Learning Centre
  - Academic advisors available 12.00-2.00pm today

• Problems within your courses?
  - Contact the relevant school office
Getting Help And Support Continued

- Problems with your program/degree?
  - Adding or changing courses (subjects) or changing you degree?
  - Interpreting or arranging your timetable?
  - Applying for credit for previous studies?
- EAIT Faculty Office: 50-S204 (Hawken Building)
- https://www.eait.uq.edu.au/contact-us

- Student Services: International advisers; Disability Advisers; Counsellors; Accommodation; Employment: https://my.uq.edu.au/contact/student-life

- Look after yourself: Sleep, exercise, eat well

ASK EARLY!

No such thing as a silly question!

Don’t forget your friends and family!
English for Academic Communication
EAC: Engineering
Supporting ENGG1100

EAC: Engineering is a free course that aims to help new students adjust to a new learning culture, learn about unfamiliar academic genres and achieve success in their studies.

The classes will focus on developing academic literacy skills needed for ENGG1100 assessments.
Workshops include:
• Report writing
• Giving effective presentations
• Reflective writing in portfolios

Days and times:
Friday 11:00am -1:00pm OR 2:00pm – 4:00 pm
Weeks 3 – 9 of Semester
Your teacher will email you the zoom link.

https://plus.icte.uq.edu.au/apply_to_courses/EAC
Questions?