# Bachelor of Engineering (Honours)/Bachelor of Computer Science (Domestic students)

### Program code
1585

### Available at
Gold Coast Campus

### Duration
5 years full-time
10 years part-time

### Credit points
400

### Indicative fee
$8,500.00* per year (more)
* 2024 indicative annual CSP fee

### Entry requirements
70.00
ATAR/RANK 2024
(more)

### Commencing in
Trimester 1 and Trimester 2

### Prerequisites
NIL

### Assumed knowledge
Any General or Applied English subject (Units 3 and 4, C)
Mathematical Methods (Units 3 and 4, C)

## Degree requirements: Students who started Trimester 2 - 2022

For the award of *Bachelor of Engineering (Honours)/Bachelor of Computer Science [BEng(Hons)/BCompSc]*, you must successfully complete 400 credit points, made up of the core courses AND

- 20 credit points of foundation courses for your chosen Engineering major;
- 160 credit points for an Engineering major;
- 60 credit points for a Computer Science major;

**Other program requirements**

You must successfully complete:

- no more than 140 credit points of Level 1 courses (the first digit of a course code denotes the level);
- at least 60 credit points of Level 3 courses or higher.

You must also complete a minimum of 12 weeks (60 days) of approved experience in an Engineering practice environment (or a satisfactory alternative) during your degree studies.

**Honours**

**Classification of Honours - Bachelor of Engineering (Honours)**

The class of Honours to be awarded to each student in this degree will be determined by the School Assessment Board on the basis of the Program Grade Point Average for the engineering components of the program and the performance in the final year IAP course.

A minimum IAP mark of 50% is required for the award of the Bachelor of Engineering (Honours).

Students who have repeated the IAP course will be eligible for no higher than Class III Honours. A second fail in the IAP course will result in termination of the student's enrolment in the program.

**Cut-offs for Honours Classifications**

- **Class I Honours:**
  - Program Grade Point Average - 6.200 (minimum)
  - Minimum IAP Mark - 80%
- **Class IIA Honours:**
  - Program Grade Point Average - 5.650 (minimum)
  - Minimum IAP Mark - 70%
- **Class IIB Honours:**
  - Program Grade Point Average - 5.000 (minimum)

  - Minimum IAP Mark - 60%
- **Class III Honours:**
  - Program Grade Point Average - < 5.000
  - Minimum IAP Mark - 50%

**Australian Qualifications Framework (AQF) Level and Type**

The Australian Qualifications Framework (AQF) is the national policy for regulated qualifications in Australian education and training. The Bachelor of Computer Science is accredited as an AQF Level 7 - Bachelor Degree.The Bachelor of Engineering (Honours) is accredited as an AQF Level 8 - Bachelor Honours Degree.

## Program learning outcomes

**Program learning outcomes**

Program Learning Outcomes communicate to the community the value of the Griffith educational experience as benchmarked against national qualification standards.

Program Learning Outcomes for the Bachelor of Engineering (Honours) and Bachelor of Computer Science describe the knowledge, skills and the application of knowledge and skills you will acquire through studying the Griffith program of your choice.

## Course list: Students starting Trimester 2 - 2022

**Course offering information in program structures is a guide only. Please check the actual offering information in the Course Catalogue.**

**Note: Students must check the prerequisite and incompatible requirements before selecting any course within this program.**

**Year 1**

You must complete the following courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1,3 | 1010ENG | Hons Core to Program | Engineering Mathematics 1 | 10 |
| Tri 2 | 1018ENG | Hons Core to Program | Engineering Science | 10 |
| Tri 1,3 | 1022ENG | Hons Core to Program | Engineering Design Practice | 10 |
| Tri 3 | 1017ENG | Hons Core to Program | Engineering Materials | 10 |
| Tri 3 | 1701ENG | Hons Core to Program | Creative Engineering | 10 |
| | | | **OR** | |
| Tri 2 | 1508ENG | Hons Core to Program | Digital Design and Modelling (see Note 1) | 10 |
| | | | **OR** | |
| Tri 2 | 1108ENG | Hons Core to Program | Digital and Data Skills (see Note 1) | 10 |
| | | | **OR** | |
| Tri 2 | 1008ENG | Hons Core to Program | Programming and Computing for Engineers | 10 |
| Tri 3 | 1020ENG | Hons Core to Program | Engineering Mathematics 2 | 10 |

Note 1: Students who did not complete 1701ENG prior to its withdrawal in 2022, may complete any of these three courses to satisfy their degree requirements. However, 1508ENG CAD for Design is recommended for Mechanical Engineering students, 1108ENG is recommended for Civil Engineering students and 1008ENG Programming and Computing for Engineers is recommended for Electrical and Electronic Engineering students.

**Civil Engineering**

You must complete 20 credit points (for your chosen major) from the following foundation courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 2 | 1108ENG | Mandatory Prereq | Digital and Data Skills | 10 |
| Tri 2,3 | 1501ENG | Mandatory Prereq | Engineering Mechanics | 10 |

**Electrical and Electronic Engineering**

You must complete 20 credit points (for your chosen major) from the following foundation courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 2 | 1303ENG | Mandatory Prereq | Digital Systems | 10 |
| Tri 2,3 | 1301ENG | Mandatory Prereq | Electric Circuits | 10 |

**Mechanical Engineering**

You must complete 20 credit points (for your chosen major) from the following foundation courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 2 | 1508ENG | Mandatory Prereq | Digital Design and Modelling | 10 |
| Tri 2,3 | 1501ENG | Mandatory Prereq | Engineering Mechanics | 10 |

**Year 2**

You must complete the following courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 2205NSC | Core to Program | Calculus II | 10 |
| Tri 2 | 1808ICT | Core to Program | Discrete Structures | 10 |
| Tri 1,2 | 1811ICT | Core to Program | Programming Principles | 10 |
| Tri 1,2 | | | Engineering major courses | 50 |

**Year 3**

You must complete the following courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 1807ICT | Core to Program | Computer and Network Architecture (not offered from 2024) | 10 |
| | | | **OR** | |
| Tri 1,3 | 1007ICT | Core to Program | Computer Systems and Cyber Security | 10 |
| Tri 1 | 2801ICT | Core to Program | Computing Algorithms | 10 |
| Tri 2 | 2813ICT | Core to Program | Software Engineering Fundamentals (not offered from 2025) | 10 |
| | | | **OR** | |
| Tri 2 | 2810ICT | Core to Program | Software Technologies (offered from 2025) | 10 |
| Tri 1,2 | | | Engineering major courses | 20 |
| Tri 1,2 | | | Computer Science major courses | 30 |
| | | | **OR** | |
| Tri 1,2 | | | Computer Science courses (for students not electing to complete a major) | 30 |

**Year 4**

You must complete the following courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 2800ICT | Core to Program | Object Oriented Programming | 10 |
| Tri 2 | 2808ICT | Core to Program | Secure Development Operations | 10 |
| Tri 2 | 3004ENG | Hons Core to Program | Project Management Principles | 10 |
| Tri 1,2 | | | Engineering major courses | 30 |
| Tri 1,2 | | | Computer Science major courses | 20 |
| | | | **OR** | |
| Tri 1,2 | | | Computer Science courses (for students not electing to complete a major) | 20 |

**Year 5**

You must complete the following courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 3410ICT | Core to Program | The Ethical Technologist (not offered from 2026) | 10 |
| Tri 1,2 | | | Engineering major courses | 60 |
| Tri 1,2 | | | Computer Science major course | 10 |
| | | | **OR** | |
| Tri 1,2 | | | Computer Science courses (for students not electing to complete a major) | 10 |

## Bachelor of Computer Science - Majors (2 available)
## Data Science and Artificial Intelligence

You must complete the following courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 2802ICT | Core to Major | Intelligent Systems (see Note) | 10 |
| Tri 2 | 2803ICT | Core to Major | Systems and Distributed Computing (not offered from 2025) | 10 |
| | | | **OR** | |
| Tri 2 | 3005ICT | Core to Major | Distributed Programming (offered from 2026) | 10 |
| Tri 1 | 3803ICT | Core to Major | Big Data Analysis (not offered from 2026) | 10 |
| | | | **OR** | |
| Tri 2 | 2030ICT | Core to Major | Introduction to Big Data Analytics (not offered from 2023) | 10 |
| Tri 2 | 3804ICT | Core to Major | Data Mining | 10 |
| Tri 2 | 2812ICT | Core to Major | Perceptual Computing (not offered from 2025) | 10 |
| | | | **OR** | |
| Tri 2 | 3006ICT | Core to Major | Robotics and Computer Vision (offered from 2026) | 10 |
| Tri 1 | 3806ICT | Core to Major | Robotics, Agents and Reasoning | 10 |

Note: Students of this program will be exempted from prerequisite limitations for 2802ICT.

## Software Development

You must complete the following courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 2802ICT | Core to Major | Intelligent Systems (see Note) | 10 |
| Tri 2 | 2803ICT | Core to Major | Systems and Distributed Computing (not offered from 2025) | 10 |
| | | | **OR** | |
| Tri 2 | 3005ICT | Core to Major | Distributed Programming (offered from 2026) | 10 |
| Tri 1 | 3801ICT | Core to Major | Numerical Algorithms (not offered from 2026) | 10 |
| | | | **OR** | |
| Tri 2 | 3813ICT | Core to Major | Software Frameworks (not offered from 2026) | 10 |
| Tri 2 | 2805ICT | Core to Major | System and Software Design (not offered from 2025) | 10 |
| | | | **OR** | |
| Tri 2 | 2006ICT | Core to Major | Object Oriented Software Development (offered from 2025) | 10 |
| Tri 1 | 3805ICT | Core to Major | Advanced Algorithms | 10 |
| Tri 1 | 3825ICT | Core to Major | Theory of Computing | 10 |

Note: Students of this program will be exempted from prerequisite limitations for 2802ICT.

## Bachelor of Computer Science - No Major Option (1 available)
## Computer Science (for students not completing a major)

You must complete 60 credit points from the following courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 2802ICT | Elective to Major | Intelligent Systems | 10 |
| Tri 2 | 2803ICT | Elective to Major | Systems and Distributed Computing (not offered from 2025) | 10 |
| | | | **OR** | |
| Tri 2 | 3005ICT | Elective to Major | Distributed Programming (offered from 2026) | 10 |
| Tri 2 | 2805ICT | Elective to Major | System and Software Design (not offered from 2025) | 10 |
| Tri 2 | 2812ICT | Elective to Major | Perceptual Computing (not offered from 2025) | 10 |
| | | | **OR** | |
| Tri 2 | 3006ICT | Elective to Major | Robotics and Computer Vision (offered from 2026) | 10 |
| Tri 1 | 3801ICT | Elective to Major | Numerical Algorithms (not offered from 2026) | 10 |
| Tri 1 | 3803ICT | Elective to Major | Big Data Analysis (not offered from 2026) | 10 |
| | | | **OR** | |
| Tri 1 | 4030ICT | Elective to Major | Big Data Analytics and Social Media (not offered from 2023) | 10 |
| | | | **OR** | |
| Tri 1,2,3 | 3032ICT | Elective to Major | Big Data Analytics and Social Media | 10 |
| Tri 1 | 3806ICT | Elective to Major | Robotics, Agents and Reasoning | 10 |
| Tri 2 | 3804ICT | Elective to Major | Data Mining | 10 |
| Tri 1 | 3805ICT | Elective to Major | Advanced Algorithms | 10 |
| Tri 2 | 3825ICT | Elective to Major | Theory of Computing | 10 |
| Tri 2 | 3906ICT | Elective to Major | Digital Forensics | 10 |

## Bachelor of Engineering (Honours) - Majors (3 available)

## Civil Engineering

**Year 2**

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 2002ENG | Hons Core to Major | Fluid Mechanics and Hydraulics | 10 |
| Tri 1 | 2101ENG | Hons Core to Major | Mechanics of Materials I | 10 |
| Tri 1 | 2104ENG | Hons Core to Major | Construction Methods and Practices | 10 |

**Year 3**

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 2 | 2004ENG | Hons Core to Major | Hydrology | 10 |
| Tri 2 | 2102ENG | Hons Core to Major | Soil Mechanics | 10 |
| Tri 2 | 2103ENG | Hons Core to Major | Structural Design | 10 |
| Tri 2 | 3113ENG | Hons Core to Major | Civil Engineering Design Project | 10 |

**Year 4**

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 3101ENG | Hons Core to Major | Structural Analysis | 10 |
| Tri 2 | 3103ENG | Hons Core to Major | Concrete Structures | 10 |
| Tri 1 | 3102ENG | Hons Core to Major | Geotechnical Engineering | 10 |

**Year 5**

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 6002ENG | Hons Core to Major | IAP (see Note) | 40 |
| Tri 2 | 6106ENG | Hons Core to Major | Transportation Engineering | 10 |
| Tri 2 | 6003ENG | Hons Core to Major | Integrated Design Project | 10 |
| | | | **OR** | |
| Tri 2 | 6209ENG | Hons Core to Major | System Design Project | 10 |

Note: It is a requirement that students complete a minimum of 60 days approved experience in an engineering practice environment (or a satisfactory alternative) during their degree studies.

## Electrical and Electronic Engineering

**Year 2**

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 2319ENG | Hons Core to Major | Introduction to Electronics | 10 |
| Tri 2 | 2318ENG | Hons Core to Major | Electromechanics | 10 |
| Tri 2 | 2305ENG | Hons Core to Major | Signals and Systems | 10 |
| Tri 2 | 2314ENG | Hons Core to Major | Engineering Electromagnetics | 10 |
| Tri 2 | 3325ENG | Hons Core to Major | Numerical Engineering Methods | 10 |

**Year 3**

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 2 | 2322ENG | Hons Core to Major | Engineering C | 10 |
| Tri 2 | 2303ENG | Hons Core to Major | Embedded Systems | 10 |

**Year 4**

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 3304ENG | Hons Core to Major | Control Systems | 10 |
| Tri 1 | 3312ENG | Hons Core to Major | Electrical Design Project | 10 |
| Tri 1 | 3322ENG | Hons Core to Major | Electromagnetic Waves and Propagation | 10 |

**Year 5**

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 6321ENG | Hons Core to Major | Discrete Time Signal Processing | 10 |
| Tri 1 | 6315ENG | Hons Core to Major | Communication Systems | 10 |
| Tri 2 | 6002ENG | Hons Core to Major | IAP (see Note) | 40 |

Note: It is a requirement that students complete a minimum of 60 days approved experience in an engineering practice environment (or a satisfactory alternative) during their degree studies.

## Mechanical Engineering

**Year 2**

You must complete the following courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 2101ENG | Hons Core to Major | Mechanics of Materials I | 10 |
| Tri 2 | 2105ENG | Hons Core to Major | Mechanics of Materials 2 | 10 |
| Tri 2 | 2201ENG | Hons Core to Major | Engineering Thermodynamics | 10 |
| Tri 2 | 2318ENG | Hons Core to Major | Electromechanics | 10 |
| Tri 2 | 2501ENG | Hons Core to Major | Manufacturing Technology | 10 |

**Year 3**

You must complete the following courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 2502ENG | Hons Core to Major | Mechanical Engineering Design | 10 |
| Tri 2 | 3511ENG | Hons Core to Major | Design of Machine Elements | 10 |

**Year 4**

You must complete the following courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 2002ENG | Hons Core to Major | Fluid Mechanics and Hydraulics | 10 |
| Tri 1 | 2517ENG | Hons Core to Major | Kinematics and Dynamics | 10 |
| Tri 1 | 3304ENG | Hons Core to Major | Control Systems | 10 |

**Year 5**

You must complete the following courses:

| Trimester | Course code | Requirement | Course title | CP |
|---|---|---|---|---|
| Tri 1 | 3508ENG | Hons Core to Major | Materials and Manufacturing | 10 |
| Tri 1 | 4007ENG | Hons Core to Major | Heat and Mass Transfer Engineering | 10 |
| Tri 2 | 6002ENG | Hons Core to Major | IAP (see Note) | 40 |

Note: It is a requirement that students complete a minimum of 60 days approved experience in an engineering practice environment (or a satisfactory alternative) during their degree studies.