# Bachelor of Engineering (Honours)[Embedded]-Bachelor of Science

2027 ENTRY

Electrical and Electronic Engineering & Data Science

## Useful study planning / enrolment resources

| | | | |
|---|---|---|---|
| Course and Subject Handbook | Academic Calendars | Class Registration | Enrolment Resources |

**Attention International Student visa holders:** To remain compliant with your enrolments requirements as a Student visa holder you are required to enrol in at least one On-Campus, Multi-Modal or WIL subject offering in each compulsory study period and you cannot enrol in more than one third (33%) of your total course load through online or distance learning. To complete your course within your CoE duration students must maintain sufficient subject enrolment. If you are receiving US Federal Aid, there are further compliance considerations. Please contact financialaid@jcu.edu.au to confirm compliance of your subject selections.

Student Resources: If you require advice about your study plan, choosing electives, or which subjects to enrol in, please contact your major advisor or degree coordinator (CSE Course and Major Advisors). For information on available elective subject options please also refer to the Study Area guide (JCU STUDY AREA GUIDE — College of Science & Engineering).

**Intensive on-campus requirements:** Subjects labelled with *Intensive on-campus requirements involve mandatory on-campus or fieldwork attendance with extended hours over a dedicated face-to-face period. Please check the face-to-face dates for the subject in the subject handbook and do not enrol in subjects with overlapping face-to-face dates. For more information, see the CSE Student Guide to Succeeding in Trimester 2 Intensives on the CSE Student Resources webpage.

### How to read this planner

**PREREQ** Prerequisite information **ONLINE** Online offering **PLACEMENT** Placement requirement **INTENSIVE** Intensive on-campus requirement

## 2027

| TRIMESTER 1 | TRIMESTER 2 | TRIMESTER 3 |
|---|---|---|
| EG1000:03 Engineering 1 | MA1003:03 Mathematical Techniques<br>**PREREQ:** MA1000 OR MA1011 OR MA1009 | EG1011:03 Statics and Dynamics<br>**PREREQ:** PH1005 |
| EG1002:03 Computing and Sensors | PH1005:03 Newtonian Physics<br>**PREREQ:** Maths B or MA1020 or MA0020 or MA1000 or MA1008 OR admission to 116209, 116409 or 116309. Allow concurrent for MA1020, MA1000 and MA1008 | EG1010:03 Process Engineering |
| MA1000:03 Mathematical Foundations<br>**PREREQ:** MA1020 or MA0020 or BR0202 or High school subjects: Mathematical Methods or Specialist Mathematics (or equivalent such as Maths B or Maths C) | **Engineering Major**<br>CP1407:03 Introductory Machine Learning and Data Science | EG1012:03 Electric Circuits |

*Studying all EG Level 1 subjects in 1st year is recommended as this provides the required knowledge to determine your major pathway (for a total of 9 subjects this year) This choice also allows for a lighter 7-subject load in your final year when completing your thesis.

## 2028

| TRIMESTER 1 | TRIMESTER 2 | TRIMESTER 3 |
|---|---|---|
| SC1101:03 Science, Technology and Truth | **Science Major**<br>Select 3 credit points of any undergraduate subject | **Engineering Major**<br>CP1404:03 Programming II<br>**PREREQ:** CP1801 or CP1401 or CP1200 or EG1002 or CP2200 or SC1201 |
| **Engineering Major**<br>CC2511:03 Digital Logic and Embedded Systems<br>**PREREQ:** EG1002 or CP1404 or CP1401 or admittance into Master of Engineering (Professional) | **Science Major**<br>Select 3 credit points from List 1 | **Science Major**<br>MA1580:03 Foundations of Data Science |
| MA2000:03 Mathematics for Scientists and Engineers<br>**PREREQ:** MA1003 | | **Science Major**<br>MA3405:03 Statistical Data Mining for Big Data<br>**PREREQ:** MA2405 or MA2000 or SC2202 or SC2209 |

## 2029

| TRIMESTER 1 | TRIMESTER 2 | TRIMESTER 3 |
|---|---|---|
| SC2202:03 Quantitative Methods in Science<br>**PREREQ:** SC1102 or SC1109 or admission to Bachelor of Business and Environmental Science or admission to 116209, 116309 or 116409<br>Offered TR1, TR3<br>**OR**<br>SC2209:03 Quantitative Methods in Science-Advanced<br>**PREREQ:** MA1003 and ((SC1109 plus 6 credit points of other Level 1 subjects) or admission in 116409) | **Engineering Major**<br>EE2201:03 Circuit Theory<br>**PREREQ:** EG1012 and MA2000. Allow concurrent enrolment for MA2000 | **Science Major**<br>MA2405:03 Advanced Statistical Modelling<br>**PREREQ:** MA1401 or BZ2001 or MA2401 or SC2202 or SC2209 and MA1000 |
| **Science Major**<br>MA3831 Natural Language Processing, Web Scraping and Large Data Processing<br>**PREREQ:** CP1404 and MA3405 | **Engineering Major**<br>PH2019:03 Electromagnetism and Optics<br>**PREREQ:** (EG1012 or PH1005) and MA1003 | **Engineering Major**<br>EE2300:03 Electronics and Circuit Design<br>**PREREQ:** EG1012 |
| Select 3 credit points of any Level 2, 3 or 5 Science Subject | | **Science Major**<br>Select 3 credit points from List 1 |

## 2030

| VAC WORK (Dec-Feb) | TRIMESTER 2 | TRIMESTER 3 |
|---|---|---|
| *Time available for work placements with engineering employers* | **Engineering Major**<br>CC3501:03 Embedded Systems Design and Interfacing<br>**PREREQ:** (CC2511 and CP1404 and EE2300) or admittance into Master of Engineering (Professional) | **Engineering Major**<br>EE3400:03 Power System Analysis<br>**PREREQ:** EE2201 or admittance into Master of Engineering (Prof) |
| **BLOCK 2 (Mar-Apr)**<br>EG3000:03 Introduction to Systems Engineering and Project Management<br>**PREREQ:** EG1000 and EG1002 and EG1010 and EG1011 and EG1012 and MA1000 and MA1003 and (PH1005 or EG1001) or 36 credit points | **Engineering Major**<br>EE3010:03 Digital Signal Processing<br>**PREREQ:** At least 48 credit points from subjects in Bachelor of Engineering or Admission to Master of Engineering (Professional) | **Engineering Major**<br>EE3600:03 Automation and Control Systems<br>**PREREQ:** (EG1012 and MA2000) or admittance into Master of Engineering (Professional) |
| **BLOCK 2 (Mar-Apr)**<br>**Engineering Major**<br>EE3300:03 Electronics Applications<br>**PREREQ:** EE2300 or admittance into Master of Engineering (Prof) | **Science Major**<br>MA3832:03 Neural Network and Deep Learning<br>**PREREQ:** MA3405 or MA5405 and CP1404 or admission to BSc(Hons) 115809<br>**OR**<br>MA3212:03 Optimisation and Operations Research<br>**PREREQ:** MA2000 | **Engineering Major**<br>EE3700:03 Communications Systems Principles<br>**PREREQ:** EE2201 |

## 2031

| VAC WORK (Dec-Feb) | TRIMESTER 2 | TRIMESTER 3 |
|---|---|---|
| *Time available for work placements with engineering employers* | EG4011:03 Thesis Part 1 of 2<br>**PREREQ:** 60 credit points | EG4012:03 Thesis Part 2 of 2<br>**PREREQ:** EG4011 |
| **BLOCK 2 (Mar-Apr)**<br>**Engineering Major**<br>EE4500:03 Electrical and Electronic Systems Design Project<br>**PREREQ:** 48 credit points in Bachelor of Engineering, Bachelor of Engineering-Bachelor of Science, or Bachelor of Engineering-Bachelor of Information Technology | **Engineering Major**<br>EE4400:03 Renewable System Integration<br>**PREREQ:** EE3400 or admittance into Master of Engineering (Prof) | Select 3 credit points of any Level 2, 3 or 5 Science Subject<br>*Recommended students complete SC3003:03 Science Research Internship or SC3008:03 Professional Placement |
| **BLOCK 2 (Mar-Apr)**<br>**Engineering Major**<br>EE4600:03 Control System Design<br>**PREREQ:** EE3600 or admittance into Master of Engineering (Prof) | **Engineering Major**<br>EE4310:03 Power Electronics<br>**PREREQ:** EE2201 and EE3600 | |

## Course handbook

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|---|---|
| Bachelor of Engineering (Honours)[Embedded] – Bachelor of Science | Electrical and Electronic Engineering<br>Data Science |

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|---|---|
| **Award Title** | Bachelor of Engineering (Honours) – Bachelor of Science |
| **Abbreviation** | BEng(Hons)-BSc |
| **Credit Points** | 120 |
| **AQF Level** | Level 8 - Bachelor Honours Degree |
| **Location** | Townsville Bebegu Yumba, Cairns Nguma-bada |
| **Division** | Academy |
| **College** | College of Science and Engineering |
| **Expected Time to Complete** | 5 Years |
| **Maximum Time to Complete** | 13 Years |
| **Maximum Leave of Absence** | 3 Years |
| **CRICOS Code** | 085380B |