Bachelor of Engineering (Honours)[Embedded] – Bachelor of Science

Mechanical Engineering & Physics

2027 ENTRY

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 **PREREQ:** MA1000 OR MA1011 OR MA1009	EG1011:03 Statics and Dynamics **PREREQ:** PH1005
EG1002:03 Computing and Sensors	PH1005:03 Newtonian Physics **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 **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** 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	**Engineering Major** EG2010:03 Materials Science and Engineering	**Science Major** PH1007:03 Fundamental Physics **PREREQ:** ((Maths B or equivalent or MA1020 or MA0020) and PH1005) or (Physics and Maths C)
MA2000:03 Mathematics for Scientists and Engineers **PREREQ:** MA1003	**Science Major** PH2019:03 Electromagnetism and Optics **PREREQ:** (EG1012 or PH1005) and MA1003	**Engineering Major** ME2525:03 Machine Element Design **PREREQ:** CS2001
Engineering Major CS2001:03 Engineering Strength of Materials **PREREQ:** EG1011		**Engineering Major** ME2521:03 Dynamics of Machine Elements **PREREQ:** EG1011

2029

TRIMESTER 1	TRIMESTER 2	TRIMESTER 3
SC2202:03 Quantitative Methods in Science **PREREQ:** SC1102 or SC1109 or admission to Bachelor of Business and Environmental Science or admission to 116209, 116309 or 116409 Offered TR1, TR3 **OR** SC2209:03 Quantitative Methods in Science-Advanced **PREREQ:** MA1003 and ((SC1109 plus 6 credit points of other Level 1 subjects) or admission in 116409)	**Engineering Major** ME3511:03 Dynamics and Acoustics **PREREQ:** MA2000 and ME2521	**Engineering Major** EG2008:03 Fluid Mechanics **PREREQ:** EG1011 and MA2000
Science Major PH2048:03 Medical and Radiation Physics **PREREQ:** ((Maths B or equivalent or MA1020 or MA0020) and PH1005) or (Physics and Maths C)	**Engineering Major** ME3525:03 Mechanical Design and Bulk Materials Handling **PREREQ:** ME2525	**Science Major** PH2002:03 Classical Mechanics **PREREQ:** MA1003 AND PH1005 AND (PH1006 OR PH1007 OR (EG1012 AND EG1011))
Science Major PH3021:03 Physics of the Earth, solar System, and Universe **PREREQ:** PH1005 and (PH1007 or EG1010 and EG1011 and EG1012)		**Engineering Major** ME3512:03 Heat and Mass Transfer **PREREQ:** MA2000

2030

VAC WORK (Dec-Feb)	TRIMESTER 2	TRIMESTER 3
Time available for work placements with engineering employers	**Engineering Major** ME3515:03 Advanced Manufacturing Engineering **PREREQ:** ME2525 and EG2010	**Engineering Major** EE3600:03 Automation and Control Systems **PREREQ:** (EG1012 and MA2000) or admittance into Master of Engineering (Professional)
BLOCK 2 (Mar-Apr) **Engineering Major** ME4513:03 Advanced Fluid Mechanics **PREREQ:** CS3008 or EG2008	**Engineering Major** ME4522:03 Thermodynamics and Energy Conversion **PREREQ:** ME2512 or EG2008	**Science Major** PH3008:03 Statistical Mechanics and Transport **PREREQ:** MA2000 AND PH1005 AND (PH1007 OR EG1010 AND EG1011 AND EG1012)
BLOCK 2 (Mar-Apr) **Engineering Major** ME4515:03 Advanced Mechanical Engineering Design **PREREQ:** ME3525	**Science Major** PH3002:03 Advanced Quantum Physics **PREREQ:** MA2000	Select 3 credit points of any Level 2, 3 or 5 Science Subject

2031

VAC WORK (Dec-Feb)	TRIMESTER 2	TRIMESTER 3
Time available for work placements with engineering employers	EG4011:03 Thesis Part 1 of 2 **PREREQ:** 60 credit points	EG4012:03 Thesis Part 2 of 2 **PREREQ:** EG4011
BLOCK 2 (Mar-Apr) EG3000:03 Introduction to Systems Engineering and Project Management **PREREQ:** EG1000 and EG1002 and EG1010 and EG1011 and EG1012 and MA1000 and MA1003 and (PH1005 or EG1001) or 36 credit points	**Engineering Major** EG4013:03 Asset Management, Maintenance and Reliability **PREREQ:** 24 credit points of subjects	Select 3 credit points of any Level 2, 3 or 5 Science Subject *Recommended students complete SC3003:03 Science Research Internship or SC3008:03 Professional Placement
BLOCK 2 (Mar-Apr) **Engineering Major** EG3001:03 Finite Element Analysis **PREREQ:** EG1002 and EG1011 and MA2000	**Science Major** Select a 3 credit point Level 1, 2 or 3 Science subject	

Course handbook

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Course Notes

Cairns Students only

Students studying in Cairns will be required to attend the Townsville campus for residentials in the third and fourth year of their study.

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