JCU STUDY AREA GUIDE 2025

College of Science & Engineering

JCU STUDY AREA GUIDE 2025

College of Science & Engineering

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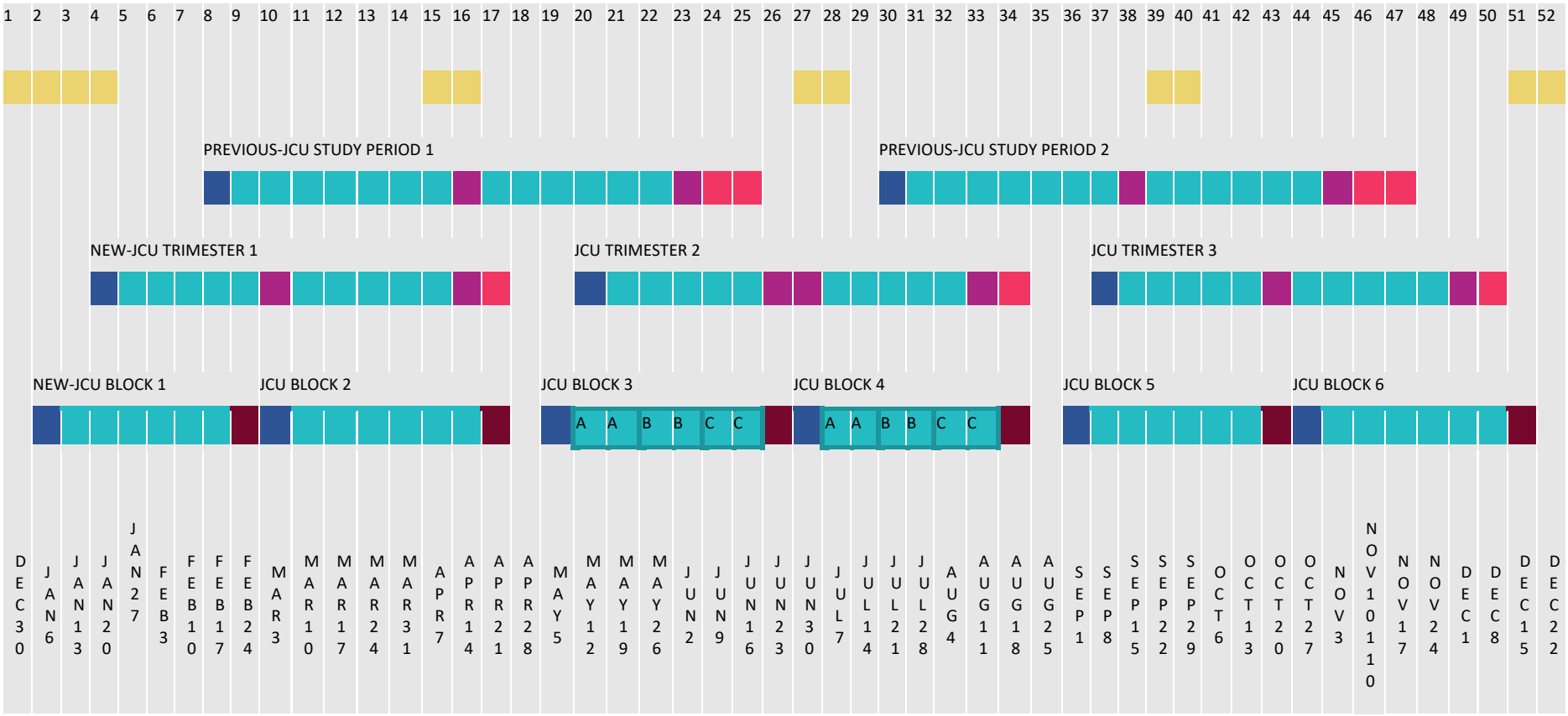
2025 JCU Academic Calendar

College of Science & Engineering



Key

Orientation/Welcome **Teaching** **Recess/Vacation/Exam prep** **Exams** **Assessments** **AUS School Holidays**

The College of Science & Engineering will be teaching our undergraduate and postgraduate subjects and courses in Trimester format from 2025. Please note, there are a handful of research-based subjects that will remain in semester mode for teach out, but the majority of subjects will move across to trimester format.

Aquaculture

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
BS1001	Introduction to Biological Processes										TR 3
BS1007	Introduction to Biodiversity		Local Fieldwork	TR 1							
MB1110	Introductory Marine Science *PREREQ: CH1020-Preparatory Chemistry or equivalent and MA1020-Preparatory Mathematics or equivalent, allow concurrent for CH1020 and MA1020*							BLK 4			
AQ2001	Introduction to Aquaculture *PREREQ: At least 12 credit points of Level 1 science*			TR 1							
AQ2002/AQ5009 PG	Aquaculture of Tropical Species *PREREQ: At least 12 credit points of Level 1 science*										TR 3
MI2031/MI5003 PG	Diagnosis of Bacterial Diseases in Aquaculture										TR 3
AQ3002/AQ5002 PG	Aquaculture: Feeds and Nutrition *PREREQ: At least 12 credit points of Level 2 science and 3 credit points of level 2 AQ subjects*			TR 1							
AQ3003/AQ5003 PG	Aquaculture: Propagation *PREREQ: AQ2001 and at least 12 credit points of Level 2 science*				3A						
AQ3004/AQ5004 PG	Aquaculture: Stock Improvement *PREREQ: At least 12 credit points of Level 2 science and 3 credit points of level 2 AQ subjects*								4B		

Aquaculture *continued*...

Townsville

AQ3007/AQ5007 PG	Aquatic Animal Ecophysiology *PREREQ: At least 12 credit points of Level 2 science and 3 credit points of level 2 AQ subjects*										TR 3
AQ3008/AQ5008 PG	Aquaculture: Systems Design *PREREQ: At least 12 credit points of Level 2 science and 3 credit points of level 2 AQ subjects*					3B					
PH2006	Marine Physics										TR 3
CH2042	Marine Chemistry and Chemical Ecology *PREREQ: CH1001-First year chemistry*		Yes - OIRS	TR 1							
MB2080/MB5380 PG	Invertebrate Biology *PREREQ: BS1007-First year plant and animal biology*					3B					
MB3150/MB5003 PG	Fisheries Science *PREREQ: SC2202/SC2209-Statistics or BS2460- Ecology*			TR 1							
AQ3015/AQ5015 PG	Sustainable Aquaculture *PREREQ: At least 12 credit points of Level 2 science*					3B					
AQ5006 PG	Aquaculture: Principles and Practices			TR 1							
AQ5012 PG	Aquaculture: Hatchery Techniques										TR 3

Biology (Ecology, Zoology and Evolution)

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
BS1001	Introduction to Biological Processes										TR 3
BS1007	Introduction to Biodiversity		Local Fieldwork	TR 1							
BS2460/BS5460 PG	Fundamentals of Ecology *PREREQ: At least 6 credit points of level 1 or 2 BS/BZ/EV subjects*		Local Fieldwork								TR 3
BS2470/BS5470 PG	Evolution *PREREQ: BS1001-First year cell biology/genetics*			TR 1							
BZ2480/ BZ5480 PG	Restoration Ecology *PREREQ: At least 3 credit points of level 1 BZ/EV subjects*		TBA								TR 3
BZ2490/BZ5990 PG	Toolkit for the Field Biologist *PREREQ: SC2202/SC2209-Statistics* **MIXED Attendance**		OIRS				3C				
BZ2725/BZ5925 PG	Australian Terrestrial Diversity *PREREQ: BS1007-First year plant and animal biology*		On campus	TR 1							
SC2202/SC2209	Quantitative Methods in Science* **PREREQ: Intro statistics and RStudio module available immediately upon enrolment at JCU.* *SC2209 only available in TR 1*			TR 1							TR 3
BZ3001	Field Studies in the Equatorial Tropics: Borneo **MIXED Attendance**		Borneo							4C	

Biology (Ecology, Zoology and Evolution) *continued…* Townsville

SC3010	Sensors and Sensing for Scientists *PREREQ: SC2202/SC2209-Statistics*			TR 1							
BZ3061/BZ5061 PG	Behavioural Ecology *PREREQ: SC2202/SC2209-Statistics and 6 credit points of Level 2 Science*		Local Fieldwork	TR 1							
BZ3215/BZ5215 PG	Conservation Biology *PREREQ: BS1001-First year cell biology/genetics, BS1007-First year plant and animal biology, and BS2460-Ecology* **EXTERNAL Option**			TR 1							TR 3 ext
BZ3220/BZ5220 PG	Population and Community Ecology *PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology*		Local Fieldwork	TR 1							
BZ3225/BZ5225 PG	Technological Applications in Ecology *PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology* **EXTERNAL Subject**		Modules								TR 3 ext
BZ3230/BZ5230 PG	Ecological Research Methods *PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology* **MIXED Attendance**		Field – DRO							4C	
BZ3235/BZ5235 PG	Biological Invasions *PREREQ: BS1007-First year plant and animal biology*		Local Fieldwork	TR 1							
BZ3450/BZ5450 PG	Ecological and Conservation Genetics *PREREQ: BS2470 or BC2023 or BC2013 (genetics or biochemistry)* **MIXED Attendance**					3B					
BZ3740/BZ5740 PG	Wildlife Ecology and Management *PREREQ: BS2460- Ecology or 3 credit points of level 2 biology*		South Johnston	TR 1							
BZ3745/BZ5745 PG	Tropical Entomology *PREREQ: BS1007-First year plant and animal biology and BS2460-Ecology* **MIXED Attendance**		Local + DRO		3A						

Biology (Ecology, Zoology and Evolution) *continued*... Townsville

BZ3755/BZ5755 PG	Climate Change and Biodiversity *PREREQ: 18 credit points of level 1 and 2 AQ/BZ/EV/MB subjects* *MIXED Attendance*		TBA					4A			
BS5260 PG	Modelling Ecological Dynamics **Only available to Postgraduate and Bachelor of Advanced Science students*		Pracs	TR 1							
BZ5650 PG	Australian Land Plants: Recognition, Evolution and Diversity **EXTERNAL Only** *Note-Field trip making your own plant collection*		Individual Plant Collection	TR 1 ext	BLK 3 ext			BLK 4 ext			TR 3 ext
BZ5930 PG	Conservation in a Changing World: Issues and Solutions		TBA								TR 3
BZ5935 PG	Terrestrial Ecophysiology										TR 3
BZ5940 PG	Evolutionary Adaptation in a Changing World						3C				

CASE Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
AR1001	The World of Archaeology **EXTERNAL Option**				TR 2 ext option						
AR2304	From Stonehenge to the Colosseum: Archaeology of Europe **EXTERNAL Subject**				TR 2 ext						
AR2407	Forensic Archaeology **EXTERNAL Option**			TR 1 ext option							
AR3008	Boats and Beaches: The Archaeology of Coasts and Islands *PREREQ: At least 6 credit points of AR subjects* **EXTERNAL Subject**										TR 3 ext
AR3501	Ancestors and Emperors: The Rise and Fall of Ancient Societies			TR 1							

Chemistry

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
BR0301	Preparatory Chemistry **EXTERNAL Subject (domestic only)**			TR 1 ext	TR 2 ext						TR 3 ext
CH1020	Preparatory Chemistry			TR 1	TR 2						
CH1001	Chemistry: The Central Science *PREREQ: CH1020 or high school chemistry equivalent*				TR 2						
CH1002	Chemistry: Principles and Applications *PREREQ: CH1001-First year chemistry*										TR 3
CH2042	Marine Chemistry and Chemical Ecology *PREREQ: CH1001-First year chemistry*		Yes - OIRS	TR 1							
CH2103/CH5203 PG	Analytical Chemistry *PREREQ: CH1001-First year chemistry*										TR 3
CH2210	Inorganic Chemistry *PREREQ: CH1001-First year chemistry and CH1002-First year chemistry second semester*			TR 1							
CH2310	Organic Chemistry *PREREQ: CH1001-First year chemistry and CH1002-First year chemistry second semester*				TR 2						
CH3041/CH5041 PG	Environmental Chemistry *PREREQ: CH1020-Preparatory Chemistry or CH1001-First year chemistry* **MIXED Attendance**		Yes – Ross River and water treatment plant	TR 1							

Chemistry *continued*...

Townsville

CH3110	Special Topics in Organic Chemistry *PREREQ: CH2103-Analytical chemistry*										TR3
CH3210	Applications in Inorganic Chemistry *PREREQ: CH2210-Inorganic chemistry*			TR 1							
CH3310	Special Topics in Organic Chemistry *PREREQ: CH2310-Organic chemistry*										TR 3

Data Science & Bioinformatics

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
MA1000	Mathematical Foundations *PREREQ: MA1020-Preparatory mathematics or equivalent*			TR 1	TR 2						
CP1401/CP5639 PG	Problem Solving and Programming I **EXTERNAL Option**			TR 1 ext option	TR 2 ext						
CP1404/CP5632 PG	Programming II *PREREQ: CP1401-First year programming*				TR 2						TR 3
MA1580	Foundations of Data Science *PREREQ: MA1020-Preparatory mathematics*										TR 3
MA2000	Mathematics for Scientists and Engineers *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra*			TR 1							
MA2210	Linear Algebra *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra*										TR 3
MA2211	Discrete Mathematics *PREREQ: MA1020-Preparatory mathematics or equivalent*				TR 2						
MA2830	Data Visualization				TR 2						
CP2403/CP3413 PG	Information Processing and Visualisation *PREREQ: At least 12 credit points of subjects*			TR 1							
CP2404/CP5633 PG	Database Modelling										TR 3

Data Science & Bioinformatics *continued*...

Townsville

MA2405	Advanced Statistical Modelling *PREREQ: SC2202/SC2209-statistics and MA1000-First year mathematics*										TR 3
MA3212	Optimisation and Operations Research *PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations and MA2210- Linear algebra*				TR 2						
CP3403	Data Mining *PREREQ: CP2403- Information Processing and Visualisation AND CP2404- Database Modelling*			TR 1							
MA3405	Statistical Data Mining for Big Data *PREREQ: MA2405-Statistical modelling or MA2000-Intro to multivariate calculus and ordinary and partial differential equations or SC2202/SC2209-statistics*										TR 3
MA3831	Natural Language Processing, Web Scraping and Large Data Processing *PREREQ: CP1404-Programming in Python and MA3405-Statistical data mining*			TR 1							
MA3832	Neural Network and Deep Learning *PREREQ: MA3405/MA5405-Statistical data mining and CP1404-Programming in Python*				TR 2						

EES (Earth Science & Geology)

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
EA1110	Evolution of the Earth										TR 3
EA2006/EA5016 PG	Hydrology *PREREQ: At least 9 credit points of level 1 subjects*			TR 1							
EA2110/EA3110	Introduction to Sedimentology/ Sedimentology and Stratigraphy *PREREQ: At least 9 credit points of level 1 subjects including EA1110-First year Earth science*										TR 3
EA2220/EA5048 PG	Earth Materials: Minerals and Magmas *PREREQ: At least 9 credit points of level 1 subjects including EA1110-First year Earth science*			TR 1							
EA2404/EA5404 PG	Earth's Climate: Past, Present and Future *PREREQ: At least 9 credit points of level 1 subjects*										TR 3
EA2510/EA5320 PG	Earth Resources, Exploration and Environment *PREREQ: At least 9 credit points of level 1 subjects*										TR 3
EA2900/EA5330 PG	Introductory Outback Field Mapping *PREREQ: At least 9 credit points of level 1 subjects including EA1110-First year Earth science*		Yes – Fanning River		3A						

EES (Earth Science & Geology) *continued*...

Townsville

EA3007/EA5018 PG	Field Studies in Tropical Land and Water Science *PREREQ: At least 9 credit points of level 2 subjects including EA2006-Hydrology*		Yes – Atherton Tablelands and Cairns region				3C				
EA3120/EA5120 PG	Australia's Dinosaur Trail: Exploring Life Through Deep Time *PREREQ: At least 9 credit points of level 1 subjects*		Australian Dinosaur Trail and Outback Queensland							4C	
EA3130/EA5130 PG	Magmatic Processes and Metamorphism *PREREQ: At least 9 credit points of level 2 subjects including EA2220-Intro to sedimentology*			TR 1							
EA3207/EA5017 PG	Soil Properties and Processes for Management *PREREQ: At least 9 credit points of level 1 subjects*			TR 1							
EA3210/EA5211 PG	Structural Geology and Tectonics *PREREQ: At least 9 credit points of level 1 subjects including EA1110-First year Earth science*						3C				
EA3400/EA5043 PG	Ore Deposits and Critical Mineral Exploration *PREREQ: At least 9 credit points of level 2 subjects including EA2220-Sedimentology*										TR 3
EA3510/EA5044 PG	Geological Mapping *PREREQ: At least 9 credit points of level 2 subjects including EA2220-Sedimentology*		Mt Isa			3B					
EA3640/EA5640 PG	Advanced Environmental and Marine Geoscience Technologies and Applications *PREREQ: At least 9 credit points of level 2 subjects including 3 credit points of EV/EA/MB subjects*		OIRS						4B		
EA3800/EA5046 PG	Earth and Environmental Geochemistry *PREREQ: At least 9 credit points of level 2 subjects including 3 credit points of EV/EA/MB subjects*										TR 3

EES (Environmental Science)

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
EV1005	Environmental Processes and Global Change			TR 1							
EV1008	Human Geography										TR 3
EV2301/EV5301 PG	Urban Geography *PREREQ: At least 9 credit points of level 1 subjects*										TR 3
EV2401	Australian Landscape Processes and Evolution *PREREQ: At least 9 credit points of level 1 subjects*		Fletcherview			3B					
EV2502/EV5505 PG	Geographic Information Systems *PREREQ: At least 9 credit points of level 1 subjects*							4A			
EV3020/EV5020 PG	Environmental Social Science *PREREQ: At least 9 credit points of level 2 subjects*			TR 1							
EV3110/EV5110 PG	Environmental and Social Impact Assessment *PREREQ: At least 9 credit points of level 2 subjects*										TR 3

EES (Environmental Science) *continued*...

Townsville

EV3200/EV5200 PG	Natural Resource Management *PREREQ: At least 9 credit points of level 2 subjects*										TR 3
EV3201/EV5701 PG	Coastal and Marine Management *PREREQ: At least 9 credit points of level 1 subjects*			TR 1							
EV3401/EV5401 PG	Coastal and Catchment Geomorphology *PREREQ: At least 9 credit points of level 1 subjects*										TR3
EV3404/EV5404 PG	Field Studies in Tropical Geography *PREREQ: At least 9 credit points of level 2 subjects*		Atherton Tablelands, Outback Queensland and Cairns-Townsville region			3B					
EV3406/EV5406 PG	Coral Reef Geomorphology *PREREQ: At least 9 credit points of level 2 subjects including 3 credit points of EV/EA/MB subjects*		OIRS		3A						
EV3502/EV5502 PG	Advanced Geographic Information Systems *PREREQ: At least 9 credit points of level 2 subjects including EV2502. Allow concurrent enrolment for EV2502*										TR 3
EV3506/EV5506 PG	Remote Sensing *PREREQ: At least 9 credit points of level 2 subjects including EV2502. Allow concurrent enrolment for EV2502*									4C	
EV3606/EV5606 PG	Hazards and Disasters *PREREQ: At least 9 credit points of level 1 subjects*			TR 1							

First Year Engineering

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
EG1000	Engineering I			TR 1							TR 3
EG1002	Computing and Sensors			TR 1							
MA1000	Mathematical Foundations			TR 1	TR 2						
MA1003	Mathematical Techniques *PREREQ: MA1000-First year mathematics*				TR 2						TR 3
PH1005	Newtonian Physics *PREREQ: MA1020-Preparatory mathematics or equivalent*				TR 2						
EG1010	Process Engineering				TR 2						
EG1011	Statics and Dynamics *PREREQ: PH1005-First year physics*										TR 3
EG1012	Electric Circuits										TR 3

Engineering (Chemical)

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
CH1001	Chemistry: The Central Science *PREREQ: CH1020 or high school chemistry equivalent*				TR 2						
CH1002	Chemistry: Principles and Applications *PREREQ: CH1001-First year chemistry*										TR 3
MA2000	Mathematics for Scientists and Engineers *PREREQ: MA1003- First year calculus which includes differential equations and basic linear algebra*			TR 1							
EG2008	Fluid Mechanics *PREREQ: EG1011-Engineering statics and dynamics and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*										TR 3
CH2103/CH5203 PG	Analytical Chemistry *PREREQ: CH1001-First year chemistry*										TR 3
CL2501	Process Analysis *PREREQ: EG1010-First year chemistry/physics from an engineering perspective*			TR 1							
CL2502	Chemical Engineering Thermodynamics *PREREQ: CL2501-Process analysis and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*				TR 2						
EG3000	Introduction to Systems Engineering Project Management *PREREQ: Successful completion of first year of engineering*			BLK 2							

Engineering (Chemical) *continued*...

Townsville

CL3021	Mass Transfer Operations *PREREQ: CL2501-Process analysis and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*				BLK 2							
CL3030	Reactor Design *PREREQ: CL2501-Process analysis and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*				TR 2							
ME3512	Heat and Mass Transfer *PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations*											TR 3
EE3600	Automation and Control Systems *PREREQ: EG1012-Electric circuits and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*											TR 3
EE4600	Control System Design *PREREQ: EE3600-Automation and control systems*				BLK 2							
CL4040	Safety, Environment and Sustainability in the Process Industries *PREREQ: completed 48 credit points of Engineering subjects*				BLK 2							
CL4071	Chemical Engineering Design 1 *PREREQ: Successful completion of third year chemical engineering*				BLK 2							
CL4072	Chemical Engineering Design 2 *PREREQ: CL4071-Chemical Engineering Design 1*				TR 2							
CL4537	Minerals and Solids Processing *PREREQ: completed 48 credit points of Engineering subjects*				TR 2							
CL4538	Bioprocess Engineering *PREREQ: CL2502-Chemical engineering thermodynamics and CL3021-Mass transfer operations and CL3030-Reactor design*				TR 2							

Engineering (Civil)

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
MA2000	Mathematics for Scientists and Engineers *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra*			TR 1							
CS2001	Engineering Strength of Materials *PREREQ: EG1011-Engineering statics and dynamics*			TR 1							
CS2002	Catchment, Stream and Lake Engineering				TR 2						
CS2003	Introduction to Structural Design *PREREQ: CS2001-Engineering strength of materials*										TR 3
CS2005	Introduction to Geotechnical Engineering *PREREQ: EG1011-Engineering statics and dynamics*										TR 3
EG2008	Fluid Mechanics *PREREQ: EG1011-Engineering statics and dynamics and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*										TR 3
EG3000	Introduction to Systems Engineering Project Management *PREREQ: Successful completion of first year of engineering*			BLK 2							

Engineering (Civil) *continued*...

Townsville

CS3000	Structural Analysis *PREREQ: CS2003-Structural design and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*				TR 2						
CS3001	Concrete Engineering *PREREQ: CS2001-Engineering strength of materials*			BLK 2							
CS3002	Soil Mechanics and Geology *PREREQ: CS2005-Geotechnical engineering*										TR 3
CS3003	Design of Steel and Concrete Structures *PREREQ: CS2003-Structural design and CS3000- Structural analysis*										TR 3
CS3004	Surveying and Transportation Engineering *PREREQ: 48 credit points of undergraduate subjects*				TR 2						
CS4001	Foundation Engineering and Rock Mechanics *PREREQ: CS3002-Soil mechanics and geology*			BLK 2							
CS4002	Hydraulic and Coastal Engineering			BLK 2							
CS4005	Civil Engineering Design *PREREQ: CS3001-Concrete engineering and CS3003-Design of steel/concrete structures and CS4001-Foundation/rock mechanics engineering and CS4002-Hydraulic/coastal engineering*				TR 2						
CS4008	Water and Wastewater Engineering *PREREQ: 48 credit points of undergraduate subjects including CS2002-Lake engineering and EG1010- Process engineering*				TR 2						

Engineering (Civil) *continued*...

Townsville

CS4010	Finite Element Analysis and Structural Dynamics *PREREQ: EG1012-Electric circuits and MA2000-Intro to multivariate calculus and ordinary and partial differential equations and CS3000-Structural analysis*				TR 2						
CS5108	Advanced Ground Water Modelling and Management *PREREQ: CS2002-Catchment, stream and lake engineering*										TR 3
CS5208	Advanced Water and Wastewater Engineering *PREREQ: CS2002-Catchment, stream and lake engineering OR CS5402-Advanced hydraulic and coastal engineering*			TR 1							
CS5308	Advanced Water and Wastewater Engineering				TR 2						
CS5402	Advanced Hydraulic and Coastal Engineering			TR 1							

Engineering (Mechanical)

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
MA2000	Mathematics for Scientists and Engineers *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra*			TR 1							
CS2001	Engineering Strength of Materials *PREREQ: EG1011-Engineering statics and dynamics*			TR 1							
EG2008	Fluid Mechanics *PREREQ: EG1011-Engineering statics and dynamics and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*										TR 3
EG2010	Materials Science and Engineering				TR 2						
ME2521	Dynamics of Machine Elements *PREREQ: EG1011-Engineering statics and dynamics*										TR 3
ME2525	Machine Element Design *PREREQ: CS2001-Engineering strength of materials*										TR 3
EG3000	Introduction to Systems Engineering Project Management *PREREQ: Successful completion of first year of engineering*			BLK 2							
EG3001	Finite Element Analysis *PREREQ: EG1002-Computing and sensors and EG1011-Engineering statics and dynamics and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*			BLK 2							

Engineering (Mechanical) *continued*...

Townsville

ME3511	Dynamics and Acoustics *PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations and ME2521-Dynamics of machine elements*				TR 2						
ME3512	Heat and Mass Transfer *PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations*										TR 3
ME3515	Advanced Manufacturing Engineering *PREREQ: ME2525-Machine element design and EG2010-Materials science and engineering* *Note-Offered in even years*				TR 2						
ME3525	Mechanical Design and Bulk Materials Handling *PREREQ: EG3001-Finite element analysis and ME2525-Machine element design*				TR 2						
EE3600	Automation and Control Systems *PREREQ: EG1012-Electic circuits and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*										TR 3
EE4600	Control System Design *PREREQ: EE3600-Automation and control systems*			BLK 2							
ME4513	Advanced Fluid Mechanics			BLK 2							
ME4515	Advanced Mechanical Engineering Design *PREREQ: ME3525-Mechanical design and bulk materials handling*			BLK 2							
ME4522	Thermodynamics and Energy Conservation				TR 2						

Engineering (Electrical and Electronic)

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
MA2000	Mathematics for Scientists and Engineers *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra*			TR 1							
PH2019	Electromagnetism and Optics *PREREQ: (EG1012-Electic circuits or PH1005-First year physics) and MA1003-First year calculus which includes differential equations and basic linear algebra*				TR 2						
EE2201	Circuit Theory *PREREQ: EG1012-Electic circuits and MA2000- Intro to multivariate calculus and ordinary and partial differential equations. Allow concurrent enrolment for MA2000*				TR 2						
EE2300	Electronics and Circuit Design *PREREQ: EG1012-Electric Circuits*										TR 3
CC2511	Digital Logic and Embedded Systems *PREREQ: EG1002-Computing and sensors or CP1404- Programming in Python*			TR 1							
EG3000	Introduction to Systems Engineering Project Management *PREREQ: Successful completion of first year of engineering*			BLK 2							
EE3010	Digital Signal Processing *PREREQ: At least 48 credit points of engineering*				TR 2						

Engineering (Electrical and Electronic) *continued*...

Townsville

EE3300	Electronics Applications *PREREQ: EE2300-Electronics and circuit design*				BLK 2							
EE3400	Power System Analysis *PREREQ: EE2201-Circuit theory*											TR 3
CC3501	Embedded Systems Design and Interfacing *PREREQ: CC2511-Digital logic and embedded systems*					TR 2						
EE3600	Automation and Control Systems *PREREQ: EG1012-Electic circuits and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*											TR 3
EE3700	Communications Systems Principles *PREREQ: EE2201-Circuit theory*											TR 3
EG4013	Asset Management, Maintenance, and Reliability *PREREQ: (EG1000 and EG1002 and EG1010 and EG1011 and EG1012 and MA1000 and MA1003 and (PH1005 or EG1001)) or 36 credit points*					TR2						
EG4310	Power Electronics *PREREQ: EE2201-Circuit theory and EE3600-Automation and control systems*					TR 2						
EE4400	Renewable System Integration *PREREQ: EE3400-Power system analysis*					TR 2						
EE4500	Electrical and Electronic System Design Project *PREREQ: EE3600-Automation and control systems and EE3300- Electronics applications and EE3010-Digital signal processing*				BLK 2							
EE4600	Control System Design *PREREQ: EE3600-Automation and control systems*				BLK 2							
EE5300	Electronics Applications				BLK 2							
EE5310	Power Electronics					TR 2						

Engineering (Electrical and Electronic) *continued*... Townsville

EE5410	Advanced Renewable System Integration *PREREQ: EE5500-Sustainable power generation and distribution and EE5310-Power electronics*				TR2						
EE5500	Sustainable Power Generation and Distribution										TR 3
EE5510	Advanced Electrical Engineering Design			TR 1							
EE5610	Industrial System Automation and Control *PREREQ: EE5310-Power electronics*										TR 3

Information Technology (IT)

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
CP1401/CP5639 PG	Problem Solving and Programming I			TR 1	TR 2						
CP1402/CP5631 PG	Internet Fundamentals			TR 1							
CP1403/5631 PG	Design Thinking I										TR 3
CP1404/CP5632 PG	Programming II *PREREQ: CP1401-First year programming*				TR 2						TR 3
CP1406/CP5638 PG	Web Design and Development			TR 1							
CP1407	Introductory Machine Learning and Data Science				TR 2						
CP1409	Operating Systems and Shell Scripting				TR 2						
CP2403/CP3413 PG	Information Processing and Visualisation *PREREQ: At least 12 credit points of subjects*			TR 1							
CP2404/CP5633 PG	Database Modelling										TR 3
CP2405/CP5635 PG	Collective Intelligence and Entrepreneurship *PREREQ: At least 24 credit points of subjects*				TR 2						
CP2406	Programming III *PREREQ: CP1404-Programming in Python*										TR 3
CP2408	Design Thinking II *PREREQ: CP1403-First year design thinking*										TR 3
CP2410	Algorithms and Data Structures				TR 2						
CP2414	Network Security *PREREQ: CP1402-Internet fundamentals*			TR 1							

Information Technology (IT) *continued*...

Townsville

CP2501/CP3511 PG	Cloud Computing										TR 3
CP3402/CP5637 PG	Content Management Systems *PREREQ: CP1040-Programming in Python and CP1406-Web design and 24 credit points of CP subjects*			TR 1							
CP3403/CP5634 PG	Data Mining *PREREQ: (CP2403-Information processing and visualization and CP2404-Database modelling) OR (18 credit points of undergraduate subjects including 6 credits of CP subjects)*			TR 1							
CP3404	Information Security *PREREQ: CP-Network security or 18 credit points of subjects including CP1402-Internet fundamentals*										TR 3
CP3405	Design Thinking III *PREREQ: CP2408-Design thinking*										TR 3
CP3406/CP5307 PG	Mobile Computing *PREREQ: CP1404-Programming in Python and 18 credit points of CP subjects*				TR 2						
CP3407	Advanced Software Engineering *PREREQ: CP1404-Programming in Python and 18 credit points of CP subjects*			TR 1							
CP3501	Deep Learning				TR 2						
CP3511	Cloud Computing										TR 3
CP5602	Advanced Algorithm Analysis										TR 3
CP5636	e-Strategic Management										TR 3

Marine Biology

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
MB1110	Introductory Marine Science *PREREQ: CH1020-Preparatory Chemistry or equivalent and MA1020-Preparatory Mathematics or equivalent, allow concurrent for CH1020 and MA1020*							BLK 2			
PH2006	Marine Physics										TR 3
CH2042	Marine Chemistry and Chemical Ecology *PREREQ: CH1001-First year chemistry*		Yes - OIRS	TR 1							
MB2050	Functional Biology of Marine Organisms *PREREQ: BS1007-First year plant and animal biology*			TR 1							
MB2080/MB5380 PG	Invertebrate Biology *PREREQ: BS1007-First year plant and animal biology*					3B					
BS2460/BS5460 PG	Fundamentals of Ecology *PREREQ: At least 6 credit points of level 1 or 2 BS/BZ/EV subjects*		Field								TR 3
SC2202/SC2209	Quantitative Methods in Science* **PREREQ: Intro statistics and RStudio module available immediately upon enrolment at JCU.* *SC2209 only available in TR 1*			TR 1							TR 3
MB3014/MB5014 PG	Managing Tropical Fisheries *PREREQ: At least 12 credit points at level 2 subjects including 6 credit points of level 2 BS/BZ/EV/MB subjects*									4C	

Marine Biology *continued*...

Townsville

MB3050/MB5055 PG	Biological Oceanography *PREREQ: BS1007-First year plant and animal biology and MB2050-Marine organisms and SC2202/SC2209-Statistics*			TR 1							
MB3150/MB5003 PG	Fisheries Science *PREREQ: SC2202/SC2209-Statistics or BS2460- Ecology*			TR 1							
MB3160/MB5160 PG	Evolution and Ecology of Reef Fishes *PREREQ: MB2050-Marine organisms and BS2460-Ecology and BS2470-Evolution*		Yes – OIRS						4B		
MB3190/MB5190 PG	Corel Reef Ecology *PREREQ: BS2460-Ecology*		Yes – OIRS								TR 3
MB3200/MB5004 PG	Marine Conservation Biology *PREREQ: SC2202/SC2209-Statistics or BS2460- Ecology*										TR 3
MB3204/MB5204 PG	Managing Marine Megafauna *PREREQ: At least 12 credit points at level 2 subjects including 6 credit points of level 2 BS/BZ/EV /MB subjects*			TR 1							
MB3210/MB5400 PG	Life History and Evolution of Reef Corals *PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology*		Yes - OIRS	TR 1							
MB3270/MB5270 PG	Coastal, Estuarine and Mangrove Ecosystems *PREREQ: BS1007-First year plant and animal biology and BS2460-Ecology and SC2202/SC2209-Statistics*					3B					
EV3201/EV5701 PG	Coastal and Marine Management *PREREQ: At least 9 credit points of level 1 subjects* **MIXED Attendance - Undergraduate** **INTERNAL - Postgraduate**			TR 1							

Marine Biology *continued*...

Townsville

EV3401/EV5401 PG	Coastal and Catchment Geomorphology *PREREQ: At least 9 credit points of level 1 subjects*		Yes - TBC								TR3
EV3406/EV5406 PG	Coral Reef Geomorphology *PREREQ: At least 9 credit points of level 2 subjects including 3 credit points of EV/EA/MB subjects*		Yes - OIRS		3A						
MB5000 PG	Advances in Marine Biology		Yes - OIRS					4A			
MB5001	Tropical Marine Ecology and Coastal Impacts		Yes – Thailand?								TR 3
BS5260 PG	Modelling Ecological Dynamics **Only available to Postgraduate and Bachelor of Advanced Science students*		Pracs	TR 1							
MB5350 PG	Evidence and Controversy in Marine Science			TR 1							
MB5620 PG	Grand Challenges in Fisheries										TR 3
SC5810	Marine Ecology and Upwelling		Field - Galapagos				3C				

Math

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
MA1020	Preparatory Mathematics EXTERNAL Option			TR 1 ext option	TR 2 ext option						TR 2 ext option
MA1000	Mathematical Foundations *PREREQ: MA1020-Preparatory mathematics or equivalent*			TR 1	TR 2						
MA1003	Mathematical Techniques *PREREQ: MA1000-First year mathematics*				TR 2						TR 3
MA1580	Foundations of Data Science **EXTERNAL Option**										TR 3
SC1102/SC1109	Modelling Natural Systems *PREREQ: MA1020-Preparatory mathematics or equivalent*										TR 3
MA2000	Mathematics for Scientists and Engineers *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra*			TR 1							
MA2210	Linear Algebra *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra*										TR 3
MA2211	Discrete Mathematics *PREREQ: MA1020-Preparatory mathematics or equivalent*				TR 2						
MA2405	Advanced Statistical Modelling *PREREQ: SC2202/SC2209-statistics and MA1000-First year mathematics*										TR 3
MA2830	Data Visualization				TR 2						

Math *continued...*

Townsville

SC2202/SC2209	Quantitative Methods in Science* **PREREQ: Intro statistics and RStudio module available immediately upon enrolment at JCU.* *SC2209 only available in TR 1*			TR 1							TR 3
MA3210	Probability and Stochastic Processes *PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations and MA2210- Linear algebra*										TR 3
MA3211	Mathematical Modelling and Differential Equations *PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations and MA2210-Linear algebra*			TR 1							
MA3212	Optimisation and Operations Research *PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations and MA2210- Linear algebra*				TR 2						
MA3405	Statistical Data Mining for Big Data *PREREQ: MA2405-Statistical modelling or MA2000-Intro to multivariate calculus and ordinary and partial differential equations or SC2202/SC2209-statistics*										TR 3

Physics

Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
PH1005	Newtonian Physics *PREREQ: MA1020-Preparatory mathematics or equivalent*				TR 2						
PH1007	Fundamental Physics *PREREQ: MA1020-Preparatory mathematics or equivalent and PH1005-First year physics*										TR 3
PH2002	Classical Mechanics and Quantum Physics *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra and PH1005-First year physics and PH1007-First year second semester physics*										TR 3
PH2006	Marine Physics										TR 3
PH2009	Advanced Marine Physics *PREREQ: PH1005- First year physics and MA1000-First year mathematics*										TR 3
PH2019	Electromagnetism and Optics *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra and (PH1005-First year physics or EG1012-Electric circuits)*				TR 2						
PH2048	Medical and Radiation Physics *PREREQ: PH1007-First year second semester physics and MA1003-First year calculus which includes differential equations and basic linear algebra*			TR 1							
PH3002	Advanced Quantum Physics *PREREQ: PH2002-Classical mechanics and quantum physics and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*				TR 2						

Physics *continued*...

Townsville

PH3006	Physics of the Ocean and Atmosphere *PREREQ: PH2019-Electromagnetism optics and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*										TR 3
PH3008	Statistical Mechanics and Transport *PREREQ: PH2019-Electromagnetism optics and PH2002-Classical mechanics and quantum physics and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*										TR 3
PH3021	Physics of the Earth, Solar System, and Universe *PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations and PH2019-Electromagnetism optics and PH2002-Classical mechanics and quantum physics*			TR 1							
SC3010	Sensors and Sensing for Scientists *PREREQ: SC2202/SC2209-statistics*			TR 1							

Biology (Ecology, Zoology and Evolution)

Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
BS1001	Introduction to Biological Processes										TR 3
BS1007	Introduction to Biodiversity		Local Fieldwork	TR 1							
BS2460/BS5460 PG	Fundamentals of Ecology *PREREQ: At least 6 credit points of level 1 or 2 BS/BZ/EV subjects*		Local Fieldwork								TR 3
BS2470/BS5470 PG	Evolution *PREREQ: BS1001-First year cell biology/genetics*			TR 1							
BZ2480/ BZ5480 PG	Restoration Ecology *PREREQ: At least 3 credit points of level 1 BZ/EV subjects*		TBA								TR 3
BZ2490/BZ5990 PG	Toolkit for the Field Biologist *PREREQ: SC2202/SC2209-Statistics* **MIXED Attendance**		OIRS				3C				
BZ2725/BZ5925 PG	Australian Terrestrial Diversity *PREREQ: BS1007-First year plant and animal biology*		On campus	TR 1							
BZ3001	Field Studies in the Equatorial Tropics: Borneo **MIXED Attendance**		Borneo							4C	
SC3010	Sensors and Sensing for Scientists *PREREQ: SC2202/SC2209-Statistics*			TR 1							
BZ3061/BZ5061 PG	Behavioural Ecology *PREREQ: SC2202/SC2209-Statistics and 6 credit points of Level 2 Science*		Local Fieldwork	TR 1							

Biology (Ecology, Zoology and Evolution) *continued*... Cairns

BZ3220/BZ5220 PG	Population and Community Ecology *PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology*		Local Fieldwork	TR 1							
BZ3225/BZ5225 PG	Technological Applications in Ecology *PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology* **EXTERNAL Subject**		Modules								TR 3 ext
BZ3230/BZ5230 PG	Ecological Research Methods *PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology* **MIXED Attendance**		Field - DRO							4C	
BZ3235/BZ5235 PG	Biological Invasions *PREREQ: BS1007-First year plant and animal biology*		Local Fieldwork	TR 1							
BZ3450/BZ5450 PG	Ecological and Conservation Genetics *PREREQ: BS2470 or BC2023 or BC2013 (genetics or biochemistry)* **MIXED Subject**					3B					
BZ3620/BZ5620 PG	Tropical Flora of Australia *PREREQ: BS1007-First year plant and animal biology* **MIXED Attendance**		Field			3B					
BZ3740/BZ5740 PG	Wildlife Ecology and Management *PREREQ: BS2460- Ecology or 3 credit points of level 2 biology*		South Johnston	TR 1							
BZ3745/BZ5745 PG	Tropical Entomology *PREREQ: BS1007-First year plant and animal biology and BS2460-Ecology* **MIXED Attendance**		Local + DRO		3A						
BZ5215 PG	Conservation Biology **MIXED Attendance**			TR 1							
BS5260 PG	Modelling Ecological Dynamics **Only available to Postgraduate and Bachelor of Advanced Science students* **MIXED Subject**		Pracs	TR 1							

Biology (Ecology, Zoology and Evolution) *continued*... Cairns

BZ5650 PG	Australian Land Plants: Recognition, Evolution and Diversity **EXTERNAL Only** *Note-Field trip making your own plant collection*		Individual Plant Collection	TR 1 ext	BLK 3 ext			BLK 4 ext			TR 3 ext
BZ5930 PG	Conservation in a Changing World: Issues and Solutions		TBA								TR 3
BZ5935 PG	Terrestrial Ecophysiology										TR 3
BZ5940 PG	Evolutionary Adaptation in a Changing World **MIXED Attendance**						3C				

CASE

Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
AR1001	The World of Archaeology **MIXED Attendance**				TR 2						
AR2304	From Stonehenge to the Colosseum: Archaeology of Europe				TR 2						
AR2407	Forensic Archaeology **MIXED Attendance**			TR 1							
AR3008	Boats and Beaches: The Archaeology of Coasts and Islands *PREREQ: At least 6 credit points of AR subjects*										TR 3
AR3501	Ancestors and Emperors: The Rise and Fall of Ancient Societies **EXTERNAL Subject**			TR 1 ext							

Chemistry

Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
BR0301	Preparatory Chemistry **EXTERNAL Subject (domestic only)**			TR 1 ext	TR 2 ext						TR 3 ext
CH1020	Preparatory Chemistry **MIXED Attendance**			TR 1	TR 2						
CH1001	Chemistry: The Central Science *PREREQ: CH1020 or high school chemistry equivalent* **MIXED Attendance**				TR 2						
CH3041/CH5041 PG	Environmental Chemistry *PREREQ: CH1020-Preparatory Chemistry or CH1001-First year chemistry* **MIXED Attendance**			TR 1							

Data Science & Bioinformatics

Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
MA1000	Mathematical Foundations *PREREQ: MA1020-Preparatory mathematics or equivalent*			TR 1	TR 2						
CP1401/CP5639 PG	Problem Solving and Programming I			TR 1							
CP1404/CP5632 PG	Programming II *PREREQ: CP1401-First year programming*										TR 3
MA1580	Foundations of Data Science *PREREQ: MA1020-Preparatory mathematics*										TR 3
MA2000	Mathematics for Scientists and Engineers *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra*			TR 1							
MA2210	Linear Algebra *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra*										TR 3
MA2211	Discrete Mathematics *PREREQ: MA1020-Preparatory mathematics or equivalent*				TR 2						
CP2403/CP3413 PG	Information Processing and Visualisation *PREREQ: At least 12 credit points of subjects*			TR 1							
CP2404/CP5633 PG	Database Modelling										TR 3

Data Science & Bioinformatics *continued*... Cairns

MA2405	Advanced Statistical Modelling *PREREQ: SC2202/SC2209-statistics and MA1000-First year mathematics*										TR 3
MA2830	Data Visualization				TR 2						
MA3212	Optimisation and Operations Research *PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations and MA2210- Linear algebra*				TR 2						
CP3403	Data Mining *PREREQ: CP2403- Information Processing and Visualisation and CP2404- Database Modelling*			TR 1							
MA3405	Statistical Data Mining for Big Data *PREREQ: MA2405-Statistical modelling or MA2000-Intro to multivariate calculus and ordinary and partial differential equations or SC2202/SC2209-statistics*										TR 3
MA3831	Natural Language Processing, Web Scraping and Large Data Processing *PREREQ: CP1404-Programming in Python and MA3405-Statistical data mining*				TR 2						
MA3832	Neural Network and Deep Learning *PREREQ: MA3405/MA5405-Statistical data mining and CP1404-Programming in Python*			TR 1							

EES (Earth Science & Geology)

Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
EA1110	Evolution of the Earth										TR 3
EA2006/EA5016 PG	Hydrology *PREREQ: At least 9 credit points of level 1 subjects*			TR 1							
EA2404/EA5404 PG	Earth's Climate: Past, Present and Future *PREREQ: At least 9 credit points of level 1 subjects*										TR 3
EA3007/EA5018 PG	Field Studies in Tropical Land and Water Science *PREREQ: At least 9 credit points of level 2 subjects including EA2006*		Atherton Tablelands and Cairns region				3C				
EA3207/EA5017 PG	Soil Properties and Processes for Management *PREREQ: At least 9 credit points of level 1 subjects*			TR 1							

EES (Environmental Sciences)

Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
EV1005	Environmental Processes and Global Change			TR 1							
EV1008	Human Geography										TR 3
EV2301/EV5301 PG	Urban Geography *PREREQ: At least 9 credit points of level 1 subjects*										TR 3
EV2401	Australian Landscape Processes and Evolution *PREREQ: At least 9 credit points of level 1 subjects*		Fletcherview			3B					
EV2502/EV5505 PG	Geographic Information Systems *PREREQ: At least 9 credit points of level 1 subjects*							4A			
EV3020/EV5020 PG	Environmental Social Science *PREREQ: At least 9 credit points of level 2 subjects*			TR 1							
EV3110/EV5110 PG	Environmental and Social Impact Assessment *PREREQ: At least 9 credit points of level 2 subjects*										TR 3

EES (Environmental Sciences) *continued*...

Cairns

EV3200/EV5200 PG	Natural Resource Management *PREREQ: At least 9 credit points of level 2 subjects*										TR 3
EV3401/EV5401 PG	Coastal and Catchment Geomorphology *PREREQ: At least 9 credit points of level 1 subjects*										TR3
EV3404/EV5404 PG	Field Studies in Tropical Geography *PREREQ: At least 9 credit points of level 2 subjects*		Atherton Tablelands, Outback Queensland and Cairns-Townsville region			3B					
EV3502/EV5502 PG	Advanced Geographic Information Systems *PREREQ: At least 9 credit points of level 2 subjects including EV2502. Allow concurrent enrolment for EV2502*										TR 3
EV3506/EV5506 PG	Remote Sensing *PREREQ: At least 9 credit points of level 2 subjects including EV2502. Allow concurrent enrolment for EV2502*									4C	
EV3606/EV5606 PG	Hazards and Disasters *PREREQ: At least 9 credit points of level 1 subjects*			TR 1							

First Year Engineering

Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
EG1000	Engineering I			TR 1							TR 3
EG1002	Computing and Sensors			TR 1							
MA1000	Mathematical Foundations			TR 1	TR 2						
MA1003	Mathematical Techniques *PREREQ: MA1000-First year mathematics*				TR 2						TR 3
PH1005	Newtonian Physics *PREREQ: MA1020-Preparatory mathematics or equivalent*				TR 2						
EG1010	Process Engineering				TR 2						
EG1011	Statics and Dynamics *PREREQ: PH1005-First year physics*										TR 3
EG1012	Electric Circuits										TR 3

Engineering (Electrical and Electronic)

Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
MA2000	Mathematics for Scientists and Engineers *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra*			TR 1							
PH2019	Electromagnetism and Optics *PREREQ: (EG1012-Electic circuits or PH1005-First year physics) and MA1003-First year calculus which includes differential equations and basic linear algebra*				TR 2						
EE2201	Circuit Theory *PREREQ: EG1012-Electic circuits and MA2000- Intro to multivariate calculus and ordinary and partial differential equations. Allow concurrent enrolment for MA2000*				TR 2						
EE2300	Electronics and Circuit Design *PREREQ: EG1012-Electric Circuits*										TR 3
CC2511	Digital Logic and Embedded Systems *PREREQ: EG1002-Computing and sensors or CP1404- Programming in Python*			TR 1							
EG3000	Introduction to Systems Engineering Project Management *PREREQ: Successful completion of first year of engineering*			BLK 2							
EE3010	Digital Signal Processing *PREREQ: At least 48 credit points of engineering*				TR 2						

Engineering (Electrical and Electronic) *continued*... Cairns

EE3300	Electronics Applications *PREREQ: EE2300-Electronics and circuit design*				BLK 2							
EE3400	Power System Analysis *PREREQ: EE2201-Circuit theory*											TR 3
CC3501	Embedded Systems Design and Interfacing *PREREQ: CC2511-Digital logic and embedded systems*					TR 2						
EE3600	Automation and Control Systems *PREREQ: EG1012-Electic circuits and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*											TR 3
EE3700	Communications Systems Principles *PREREQ: EE2201-Circuit theory*											TR 3
EE3901	Sensor Technologies *PREREQ: EE2201-Circuit theory and CC2511-Digital logic and embedded systems*				BLK 2							
EG4013	Asset Management, Maintenance, and Reliability *PREREQ: (EG1000 and EG1002 and EG1010 and EG1011 and EG1012 and MA1000 and MA1003 and (PH1005 or EG1001)) or 36 credit points*					TR 2						
EG4310	Power Electronics *PREREQ: EE2201-Circuit theory and EE3600-Automation and control systems*					TR 2						
EE4400	Renewable System Integration *PREREQ: EE3400-Power system analysis*					TR 2						
EE4500	Design Project *PREREQ: EE3600-Automation and control systems and EE3300- Electronics applications and EE3010-Digital signal processing*				BLK 2							

Engineering (Electrical and Electronic) *continued*... Cairns

EE4600	Control System Design *PREREQ: EE3600-Automation and control systems*				BLK 2							
EE5300	Electronics Applications				BLK 2							
EE5901	Advanced Sensor Technologies				BLK 2							

Engineering (Electrical and IOT)

Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
CP1404	Programming II *PREREQ: CP1401-First year programming*										TR 3
MA2000	Mathematics for Scientists and Engineers *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra*			TR 1							
PH2019	Electromagnetism and Optics *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra and (PH1005-First year physics or EG1012-Electric circuits)*				TR 2						
EE2201	Circuit Theory *PREREQ: EG1012-Electic circuits and MA2000- Intro to multivariate calculus and ordinary and partial differential equations. Allow concurrent enrolment for MA2000*				TR 2						
EE2300	Electronics and Circuit Design *PREREQ: EG1012-Electric Circuits*										TR 3
CC2511	Digital Logic and Embedded Systems *PREREQ: EG1002-Computing and sensors or CP1404- Programming in Python*			TR 1							
EG3000	Introduction to Systems Engineering Project Management *PREREQ: Successful completion of first year of engineering*			BLK 2							

Engineering (Electrical and IOT) *continued*... Cairns

EE3010	Digital Signal Processing *PREREQ: At least 48 credit points of engineering*				TR 2							
CP3403	Data Mining *PREREQ: CP2403- Information Processing and Visualisation and CP2404- Database Modelling*			TR 1								
CP3406	Mobile Computing *PREREQ: CP1404-Programming in Python and 18 credit points of CP subjects*				TR 2							
EE3600	Automation and Control Systems *PREREQ: EG1012-Electic circuits and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*											TR 3
EE3700	Communications Systems Principles *PREREQ: EE2201-Circuit theory*											TR 3
CC4510	Digital System Design *PREREQ: CC3501-Computer interfacing and control*				TR 2							

Information Technology (IT)

Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
CP1401/CP5639 PG	Problem Solving and Programming I			TR 1							
CP1402/CP5631 PG	Internet Fundamentals			TR 1							
CP1403/5631 PG	Design Thinking I										TR 3
CP1404/CP5632 PG	Programming II *PREREQ: CP1401-First year programming*										TR 3
CP1406/CP5638 PG	Web Design and Development			TR 1							
CP1407	Introductory Machine Learning and Data Science				TR 2						
CP1409	Operating Systems and Shell Scripting				TR 2						
CP2403/CP3413 PG	Information Processing and Visualisation *PREREQ: At least 12 credit points of subjects*			TR 1							
CP2404/CP5633 PG	Database Modelling										TR 3
CP2405/CP5635 PG	Collective Intelligence and Entrepreneurship *PREREQ: At least 24 credit points of subjects*				TR 2						
CP2406	Programming III *PREREQ: CP1404-Programming in Python*										TR 3
CP2408	Design Thinking II *PREREQ: CP1403-First year design thinking*										TR 3
CP2410	Algorithms and Data Structures				TR 2						
CP2414	Network Security *PREREQ: CP1402-Internet fundamentals*			TR 1							
CP2501/CP3511 PG	Cloud Computing										TR 3

Information Technology (IT) *continued*... Cairns

CP3402/CP5637 PG	Content Management Systems *PREREQ: CP1040-Programming in Python and CP1406-Web design and 24 credit points of CP subjects*			TR 1							
CP3403/CP5634 PG	Data Mining *PREREQ: (CP2403-Information processing and visualization and CP2404-Database modelling) OR (18 credit points of undergraduate subjects including 6 credits of CP subjects)*			TR 1							
CP3404	Information Security *PREREQ: CP-Network security or 18 credit points of subjects including CP1402-Internet fundamentals*										TR 3
CP3405	Design Thinking III *PREREQ: CP2408-Design thinking*										TR 3
CP3406/CP5307 PG	Mobile Computing *PREREQ: CP1404-Programming in Python and 18 credit points of CP subjects*				TR 2						
CP3407	Advanced Software Engineering *PREREQ: CP1404-Programming in Python and 18 credit points of CP subjects*			TR 1							
CP3501	Deep Learning				TR 2						
CP3511	Cloud Computing										TR 3
CP5601	Advanced Data Communications Principle			TR 1							
CP5602	Advanced Algorithm Analysis										TR 3
CP5603	Advanced E-Security										TR 3
CP5607	Advanced Human Computer Interaction				TR 2						
CP5632	Programming I										TR 3
CP5634	Data Mining			TR 1							
CP5636	e-Strategic Management										TR 3
CP5637	Content Management Systems			TR 1							
CP5641	Design Thinking Principles										TR 3
CP5804	Database Systems			BLK 2							
CP5806	Data Information: Management, Security, Privacy and Ethics							BLK 4			

Math

Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
MA1020	Preparatory Mathematics **EXTERNAL Option**			TR 1 ext option							
MA1000	Mathematical Foundations *PREREQ: MA1020-Preparatory mathematics or equivalent*			TR 1	TR 2						
MA1003	Mathematical Techniques *PREREQ: MA1000-First year mathematics*				TR 2						TR 3
MA1580	Foundations of Data Science										TR 3
SC1102/SC1109	Modelling Natural Systems *PREREQ: MA1020-Preparatory mathematics or equivalent*										TR 3
MA2000	Mathematics for Scientists and Engineers *PREREQ: MA1003-First year calculus which* *includes differential equations and basic linear algebra*			TR 1							
MA2210	Linear Algebra *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra*										TR 3
MA2211	Discrete Mathematics *PREREQ: MA1020-Preparatory mathematics or equivalent*				TR 2						
MA2405	Advanced Statistical Modelling *PREREQ: SC2202/SC2209-statistics and MA1000-First year mathematics*										TR 3
MA2830	Data Visualization				TR 2						

Math *continued*...

Cairns

SC2202/SC2209	Quantitative Methods in Science* **PREREQ: Intro statistics and RStudio module available immediately upon enrolment at JCU.* *SC2209 only available in TR 1*			TR 1							TR 3
MA3212	Optimisation and Operations Research *PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations and MA2210- Linear algebra*				TR 2						
MA3405	Statistical Data Mining for Big Data *PREREQ: MA2405-Statistical modelling or MA2000-Intro* *to multivariate calculus and ordinary and partial differential equations or SC2202/SC2209-statistics*										TR 3

Physics

Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	3A	3B	3C	4A	4B	4C	Trimester 3
PH1005	Newtonian Physics *PREREQ: MA1020-Preparatory mathematics or equivalent*				TR 2						
PH2002	Classical Mechanics and Quantum Physics *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra and PH1005-First year physics and PH1007-First year second semester physics*										TR 3
PH2019	Electromagnetism and Optics *PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra and (PH1005-First year physics or EG1012-Electric circuits)*				TR 2						
PH3008	Statistical Mechanics and Transport *PREREQ: PH2019-Electromagnetism optics and early quantum and PH2002-Classical mechanics and quantum physics and MA2000-Intro to multivariate calculus and ordinary and partial differential equations*										TR 3
SC3010	Sensors and Sensing for Scientists *PREREQ: SC2202/SC2209-statistics*			TR 1							

Special Research & Internship Opportunities -Townsville & Cairns

Research Projects and Work-Integrated Learning (2025)	
3003: Science Research Internship-UG **requisites: GPA of 5.5/7.0 or equivalent** s subject is designed for students who are passionate about exploring the possibility of a research career in science and nt to try their hand at research in a low-risk setting by undertaking a small scale (100 hour) independent research project. In nsultation with staff, students will partake in existing research projects or co-design projects. Students will have an portunity to develop research skills and contribute new insights into an area of personal academic interest. The subject is ss/fail and the main assessment consists of a scientific report and research presentation.To request enrolment in this subject dent's should (1) attain written approval from a research supervisor (usually an academic or research staff member in the llege), (2) identify a project in consultation with the supervisor, and (3) then email that supervisor confirmation and a brief scription of the project and study period to the JCU Placements team who will approve your enrolment into the subject.	
3008: Professional Placement -UG **requisites: STUDENTS MUST HAVE SUCCESSFULLY COMPLETED 12 SECOND YEAR CREDIT POINTS. ENROLMENT IS RESTRICTED TO UDENTS WITH AN APPROVED PLACEMENT.** s is the Work Integrated Learning subject for multiple undergraduate science degrees in the final year of study. The subject lesigned to integrate knowledge and skills developed throughout the degree in a practical workplace setting. Students dertake a professional placement in a relevant, approved industry workplace or via an industry relevant project (minimum) hours). Students may source their own professional placements to meet their career goals or apply for a sourced cement. Through a number of tasks students will reflect upon personal and professional growth and evaluate the ory/practice nexus. Enrolment is restricted to students with an approved placement.	**Work-Integrated Learning (WIL)**
5008: Professional Placement -PG **ilable to students only with permission of the subject coordinator.** **dmissible Subject Combinations: SC5009** rolment may only be approved by the subject coordinator. Please contact directly to discuss eligibility and enrolment nditions. This subject is designed to integrate knowledge and skills developed throughout the degree in a practical workplace ting. Students undertake a professional placement in a relevant, approved industry workplace (minimum 140 hours) and ough a number of tasks reflect upon personal and professional growth and evaluate the theory/practice nexus.	**Work-Integrated Learning (WIL)**