



# JCU STUDY AREA GUIDE 2026

College of Science & Engineering

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Field Trip or Placement



Laboratory Practical



Computer Practical

# 2026 JCU Academic Calendar

College of Science &amp; Engineering

The College of Science & Engineering will be teaching our undergraduate and postgraduate subjects and courses in Trimester and block format Please note, there are a handful of research-based subjects, like honours, that will remain in semester mode for now.

[illegible]

## Key

Activity	Percentage
Orientation/Welcome	10%
Teaching	30%
Recess/Vacation/Exam prep	15%
Exams	10%
Assessments	10%
Australian School Holidays	25%

DSE=Deferred/Supplemental Exams

Academic Calendar Disclaimer: The dates and events listed in this academic calendar are subject to change. The institution reserves the right to modify dates, deadlines, or event details as necessary due to administrative requirements.

[illegible]

## Aquaculture *continued*...

## Townsville

[illegible]

# Bioinformatics

## Townsville

[illegible]










# Bioinformatics *continued...*

Townsville

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

# Biology (Ecology, Zoology and Evolution)











# Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	Block 3			Block 4			Trimester 3
					3A	3B	3C	4A	4B	4C	
BS1001	Introduction to Biological Processes										TR 3
BS1007	Introduction to Biodiversity		Local Fieldwork	TR 1							
BS2460/BS5460 PG	Fundamentals of Ecology <i>PREREQ: At least 6 credit points of level 1 or 2 BS/BZ/EV subjects</i>		Local Fieldwork								TR 3
BS2470/BS5470 PG	Evolution <i>PREREQ: BS1001-First year cell biology/genetics (Note: Pre-enrolment conditions may apply)</i>			TR 1							
BZ2480/ BZ5480 PG	Restoration Ecology <i>PREREQ: At least 3 credit points of level 1 BZ/EV subjects</i>		TBA								TR 3
BZ2490/BZ5990 PG	Toolkit for the Field Biologist <i>PREREQ: SC2202/SC2209-Statistics</i> <b>MIXED Attendance</b>		Orpheus Island Research Station (OIRS)				3C				
BZ2725/BZ5925 PG	Australian Terrestrial Diversity		On campus								TR 3
SC2202/SC2209	Quantitative Methods in Science* <i>PREREQ: SC1102/SC1109-Intro statistics and RStudio module available immediately upon enrolment at JCU.</i> <i>* SC2209 only available in TR 1 (Note: Pre-enrolment conditions may apply)</i>			TR 1							TR 3
BZ3001	Field Studies in the Equatorial Tropics: Borneo <b>MIXED Attendance</b> <i>PREREQ: SC2202-statistics and BS2460-Ecology (Note: Pre-enrolment conditions apply)</i>		Borneo (Malaysia)							4C	








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

Townsville

<b>SC3010</b>	Sensors and Sensing for Scientists <i>PREREQ: SC2202/SC2209-Statistics (Note: Pre-enrolment condition of Maths B and Senior Chemistry (or MA1020 and CH1020 OR CH1001 may apply)</i>			TR 1							
<b>BZ3061/BZ5061 PG</b>	Behavioural Ecology <i>PREREQ: 6 credit points of Level 2 Science</i>		Local Fieldwork	TR 1							
<b>BZ3215/BZ5215 PG</b>	Conservation Biology <i>PREREQ: BS1001-First year cell biology/genetics, BS1007-First year plant and animal biology, and BS2460-Ecology</i> <b>EXTERNAL Option</b>			TR 1							TR 3 ext
<b>BZ3220/BZ5220 PG</b>	Population and Community Ecology <i>PREREQ: SC2202/SC2209-Statistics and (BS2460- Ecology or 3 credit points of Level 2 BZ/BS)</i>		Local Fieldwork	TR 1							
<b>BZ3225/BZ5225 PG</b>	Technological Applications in Ecology <i>PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology</i> <b>EXTERNAL Subject</b>		Modules								TR 3 ext
<b>BZ3230/BZ5230 PG</b>	Ecological Research Methods <i>PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology</i> <b>MIXED Attendance</b>		Daintree Rainforest Observatory (DRO)							4C	
<b>BZ3235/BZ5235 PG</b>	Biological Invasions <i>PREREQ: BS1007-First year plant and animal biology</i>		Local Fieldwork	TR 1							
<b>BZ3450/BZ5450 PG</b>	Ecological and Conservation Genetics <i>PREREQ: BS2470 or BC2023 or BC2013 (genetics or biochemistry)</i> <b>MIXED Attendance</b>					3B					
<b>BZ3740/BZ5740 PG</b>	Wildlife Ecology and Management <i>PREREQ: BS2460- Ecology or 3 credit points of level 2 BZ/BS</i>		To be advised (will be remote fieldwork)								TR 3
<b>BZ3745/BZ5745 PG</b>	Tropical Entomology <i>PREREQ: BS1007-First year plant and animal biology and SC2202/SC2209-statistics</i> <b>MIXED Attendance</b>		Local + Daintree Rainforest Observatory		3A						



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

Townsville

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










# College of Arts, Social Science, & Education

# Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	Block 3			Block 4			Trimester 3
					3A	3B	3C	4A	4B	4C	
AR1001	The World of Archaeology <b>EXTERNAL Option</b>				TR 2 ext option						
AR2304	From Stonehenge to the Colosseum: Archaeology of Europe <b>EXTERNAL Subject</b>										TR 3 ext
AR2407	Forensic Archaeology <b>EXTERNAL Option</b>				TR 2 ext option						
AR3008	Boats and Beaches: The Archaeology of Coasts and Islands <b>EXTERNAL Subject</b>										TR 3 ext
AR3501	Ancestors and Emperors: The Rise and Fall of Ancient Societies <b>EXTERNAL Option</b>			TR 1 ext option							

# Chemistry

# Townsville

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

## Chemistry *continued*...

## Townsville

[illegible]

# Data Science

# Townsville

[illegible]








## Data Science *continued...*

Townsville

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

# EES (Earth Science & Geology)

# Townsville

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



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

## Townsville

[illegible]







## EES (Environmental Science)

# Townsville

[illegible]

## EES (Environmental Science) *continued...*

## Townsville

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






# First Year Engineering

# Townsville

[illegible]

# Engineering (Chemical)

# Townsville

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







## Engineering (Chemical) *continued...*

# Townsville

[illegible]







# Engineering (Civil)

# Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	Block 3			Block 4			Trimester 3
					3A	3B	3C	4A	4B	4C	
MA2000	Mathematics for Scientists and Engineers <i>PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra</i>			TR 1							
CS2001	Engineering Strength of Materials <i>PREREQ: EG1011-Engineering statics and dynamics</i>			TR 1							
CS2002	Catchment, Stream and Lake Engineering										TR 3
CS2003	Introduction to Structural Design <i>PREREQ: CS2001-Engineering strength of materials</i>				TR 2						
CS2005	Introduction to Geotechnical Engineering <i>PREREQ: EG1011-Engineering statics and dynamics</i>										TR 3
EG2008	Fluid Mechanics <i>PREREQ: EG1011-Engineering statics and dynamics and MA2000-Intro to multivariate calculus and ordinary and partial differential equations</i>										TR 3
EG3000	Introduction to Systems Engineering Project Management <i>PREREQ: Successful completion of first year of engineering</i>				BLK 2						
CS3000	Structural Analysis <i>PREREQ: CS2003-Structural design and MA2000-Intro to multivariate calculus and ordinary and partial differential equations</i>				BLK 2						

## Engineering (Civil) *continued...*



Townsville

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








## Engineering (Civil) *continued...*

Townsville

<b>CS4010</b>	Finite Element Analysis and Structural Dynamics <i>PREREQ: EG1012-Electric circuits and MA2000-Intro to multivariate calculus and ordinary and partial differential equations and CS3000-Structural analysis</i>											TR 3
<b>CS5108</b>	Advanced Ground Water Modelling and Management <i>PREREQ: CS2002-Catchment, stream and lake engineering</i>											TR 3
<b>CS5202</b>	Advanced Catchment, Stream and Lake Engineering											TR 3
<b>CS5208</b>	Advanced Water and Wastewater Engineering <i>PREREQ: CS2002-Catchment, stream and lake engineering OR CS5402-Advanced hydraulic and coastal engineering</i>			TR 1								
<b>CS5308</b>	Advanced Water and Wastewater Engineering				TR 2							
<b>CS5402</b>	Advanced Hydraulic and Coastal Engineering				BLK 2							









# Engineering (Mechanical)

# Townsville

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







# Engineering (Mechanical) *continued...*

Townsville

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









# Engineering (Electrical and Electronic)

## Townsville

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

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

Townsville

EE3300	Electronics Applications <i>PREREQ: EE2300-Electronics and circuit design</i>				BLK 2							
EE3400	Power System Analysis <i>PREREQ: EE2201-Circuit theory</i>											TR 3
CC3501	Embedded Systems Design and Interfacing <i>PREREQ: CC2511-Digital logic and embedded systems</i>					TR 2						
EE3600	Automation and Control Systems <i>PREREQ: EG1012-Electric circuits and MA2000-Intro to multivariate calculus and ordinary and partial differential equations</i>											TR 3
EE3700	Communications Systems Principles <i>PREREQ: EE2201-Circuit theory</i>											TR 3
EG4013	Asset Management, Maintenance, and Reliability <i>PREREQ: (EG1000 and EG1002 and EG1010 and EG1011 and EG1012 and MA1000 and MA1003 and (PH1005 or EG1001)) or 36 credit points</i>					TR2						
EE4310	Power Electronics <i>PREREQ: EE2201-Circuit theory and EE3600-Automation and control systems</i>					TR 2						
EE4400	Renewable System Integration <i>PREREQ: EE3400-Power system analysis</i>					TR 2						
EE4500	Electrical and Electronic System Design Project <i>PREREQ: EE3600-Automation and control systems and EE3300- Electronics applications and EE3010-Digital signal processing</i>				BL 2							
EE4600	Control System Design <i>PREREQ: EE3600-Automation and control systems</i>				BLK 2							
EE5300	Electronics Applications				BLK 2							
EE5310	Power Electronics					TR 2						

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

## Townsville

[illegible]

## Information Technology (IT)

# Townsville

[illegible]

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









## Townsville

[illegible]












# Marine Biology

# Townsville

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





## Marine Biology *continued...*

Townsville

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


## Marine Biology *continued...*

## Townsville

<b>EV3401/EV5401 PG</b>	Coastal and Catchment Geomorphology <i>PREREQ: At least 9 credit points of level 1 subjects</i>		To be advised								TR3
<b>EV3406/EV5406 PG</b>	Coral Reef Geomorphology <i>PREREQ: At least 9 credit points of level 2 subjects including 3 credit points of EV/EAMB subjects</i>		Orpheus Island Research Station (OIRS)		3A						
<b>SC5502 PG</b>	Design and Analyses in Ecological Studies <i>Basic understanding of statistics required which includes knowledge of basic probability, t-tests and ANOVA. RStudio module available immediately upon enrolment at JCU.</i>			TR 1							
<b>MB5000 PG</b>	Advances in Marine Biology		Orpheus Island Research Station (OIRS)					4A			
<b>MB5001</b>	Tropical Marine Ecology and Coastal Impacts		Thailand?								TR 3
<b>BS5260 PG</b>	Modelling Ecological Dynamics <i>*Only available to Postgraduate and Bachelor of Advanced Science students</i>			TR 1							
<b>MB5350 PG</b>	Evidence and Controversy in Marine Science			TR 1							
<b>MB5620 PG</b>	Grand Challenges in Fisheries										TR 3
<b>SC5810</b>	Marine Ecology and Upwelling		Galapagos							3C	

# Mathematics

# Townsville

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









## Mathematics *continued*...

# Townsville

[illegible]




# Physics

# Townsville

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	Block 3			Block 4			Trimester 3
					3A	3B	3C	4A	4B	4C	
PH1005	Newtonian Physics <i>PREREQ: MA1020-Preparatory mathematics or equivalent</i>				TR 2						
PH1007	Fundamental Physics <i>PREREQ: MA1020-Preparatory mathematics or equivalent and PH1005-First year physics</i>										TR 3
PH2002	Classical Mechanics <i>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 or (EG1012-Electric circuits and EG1011-Statics and dynamics))</i>										TR 3
PH2006	Marine Physics										TR 3
PH2009	Advanced Marine Physics <i>PREREQ: PH1005- First year physics and MA1000-First year mathematics</i>										TR 3
PH2019	Electromagnetism and Optics <i>PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra and (PH1005-First year physics or EG1012-Electric circuits)</i>				TR 2						
PH2048	Medical and Radiation Physics <i>PREREQ: PH1005-First year physics and MA1003-First year calculus which includes differential equations and basic linear algebra and (PH1007-First year second semester physics or (EG1010-Process engineering and EG1012-Electric circuits and EG1011-Statics and dynamics))</i>			TR 1							
PH3002	Advanced Quantum Physics <i>PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations</i>				TR 2						

## Physics continued...

Townsville

<b>PH3006</b>	Physics of the Ocean and Atmosphere <i>PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations and PH1005-First year physics and (PH1007-First year second semester physics or (EG1010-Process engineering and EG1012-Electric circuits and EG1011-Statics and dynamics))</i>										TR 3
<b>PH3008</b>	Statistical Mechanics and Transport <i>PREREQ: PH1005-First year physics and MA2000-Intro to multivariate calculus and ordinary and partial differential equations and (PH1007-First year second semester physics or (EG1010-Process engineering and EG1012-Electric circuits and EG1011-Statics and dynamics))</i>										TR 3
<b>PH3021</b>	Physics of the Earth, Solar System, and Universe <i>PREREQ: PH1005-First year physics and (PH1007-First year second semester physics or (EG1010-Process engineering and EG1012-Electric circuits and EG1011-Statics and dynamics))</i>			TR 1							
<b>SC3010</b>	Sensors and Sensing for Scientists <i>PREREQ: SC2202/SC2209-statistics</i>			TR 1							

# Bioinformatics


## Cairns

[illegible]













# Bioinformatics

Cairns

<b>MA2830</b>	Data Visualization				TR 2						
<b>MA3212</b>	Optimisation and Operations Research <i>PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations and MA2210- Linear algebra</i>				TR 2						
<b>BM3331</b>	Bioinformatics II: Mastering Big Genomic Data <i>PREREQ: BM2331-Bioinformatics I and SC2202/09-statistics</i>										TR 3
<b>CP3403</b>	Data Mining <i>PREREQ: CP2403- Information Processing and Visualisation AND CP2404- Database Modelling</i>			TR 1 ext option							
<b>MA3405</b>	Statistical Data Mining for Big Data <i>PREREQ: MA2405-Statistical modelling or MA2000-Intro to multivariate calculus and ordinary and partial differential equations or SC2202/SC2209-statistics</i>										TR 3
<b>MA3831</b>	Natural Language Processing, Web Scraping and Large Data Processing <i>PREREQ: CP1404-Programming in Python and MA3405-Statistical data mining</i>			TR 1							
<b>MA3832</b>	Neural Network and Deep Learning <i>PREREQ: MA3405/MA5405-Statistical data mining and CP1404-Programming in Python</i>				TR 2						











# Biology (Ecology, Zoology and Evolution)

Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	Block 3			Block 4			Trimester 3
					3A	3B	3C	4A	4B	4C	
BS1001	Introduction to Biological Processes										TR 3
BS1007	Introduction to Biodiversity		Local Fieldwork	TR 1							
BS2460/BS5460 PG	Fundamentals of Ecology <i>PREREQ: At least 6 credit points of level 1 or 2 BS/BZ/EV subjects</i>		Local Fieldwork								TR 3
BS2470/BS5470 PG	Evolution <i>PREREQ: BS1001-First year cell biology/genetics (Note: Pre-enrolment conditions may apply)</i>			TR 1							
BZ2480/ BZ5480 PG	Restoration Ecology <i>PREREQ: At least 3 credit points of level 1 BZ/EV subjects</i>		TBA								TR 3
BZ2490/BZ5990 PG	Toolkit for the Field Biologist <i>PREREQ: SC2202/SC2209-Statistics</i> <b>MIXED Attendance</b>		Orpheus Island Research Station (OIRS)				3C				
BZ2725/BZ5925 PG	Australian Terrestrial Diversity		On campus								TR 3
BZ3001	Field Studies in the Equatorial Tropics: Borneo <b>MIXED Attendance</b> <i>PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology (Note: Pre-enrolment conditions may apply)</i>		Borneo (Malaysia)							4C	
SC3010	Sensors and Sensing for Scientists <i>PREREQ: SC2202/SC2209-Statistics (Note: Pre-enrolment condition of Maths B and Senior Chemistry (or MA1020 and CH1020 OR CH1001 may apply)</i>			TR 1							
BZ3061/BZ5061 PG	Behavioural Ecology <i>PREREQ: 6 credit points of Level 2 Science</i>		Local Fieldwork	TR 1							




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

Cairns

<b>BZ3220/BZ5220 PG</b>	Population and Community Ecology <i>PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology</i>			TR 1							
<b>BZ3225/BZ5225 PG</b>	Technological Applications in Ecology <i>PREREQ: SC2202/SC2209-Statistics and (BS2460- Ecology or 3 credit points of Level 2 BZ/BS)</i> <b>EXTERNAL Subject</b>		Modules								TR 3 ext
<b>BZ3230/BZ5230 PG</b>	Ecological Research Methods <i>PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology</i> <b>MIXED Attendance</b>		Daintree Rainforest Observatory (DRO)							4C	
<b>BZ3235/BZ5235 PG</b>	Biological Invasions <i>PREREQ: BS1007-First year plant and animal biology</i>		Local Fieldwork	TR 1							
<b>BZ3450/BZ5450 PG</b>	Ecological and Conservation Genetics <i>PREREQ: BS2470 or BC2023 or BC2013 (genetics or biochemistry)</i> <b>MIXED Subject</b>					3B					
<b>BZ3620/BZ5620 PG</b>	Tropical Flora of Australia <i>PREREQ: BS1007-First year plant and animal biology</i> <b>MIXED Attendance</b>		Field			3B					
<b>BZ3740/BZ5740 PG</b>	Wildlife Ecology and Management <i>PREREQ: BS2460- Ecology or 3 credit points of Level 2 BZ/BS</i>		To be advised (will be remote fieldwork)								TR 3
<b>BZ3745/BZ5745 PG</b>	Tropical Entomology <i>PREREQ: BS1007-First year plant and animal biology and SC2202/SC2209-Statistics</i> <b>MIXED Attendance</b>		Local + Daintree Rainforest Observatory		3A						
<b>BZ5215 PG</b>	Conservation Biology <b>MIXED Attendance</b>			TR 1							
<b>BS5260 PG</b>	Modelling Ecological Dynamics <i>*Only available to Postgraduate and Bachelor of Advanced Science students (or with permission of the Undergraduate Academic advisors)</i> <b>MIXED Subject</b>			TR 1							



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

Cairns

<b>BZ5650 PG</b>	Australian Land Plants: Recognition, Evolution and Diversity <b>EXTERNAL Only</b> <i>Note-Field trip making your own plant collection</i>		Local Fieldwork (Individual Plant Collection)	TR 1 ext							TR 3 ext
<b>BZ5930 PG</b>	Conservation in a Changing World: Issues and Solutions <i>*Only available to Postgraduate and Bachelor of Advanced Science students (or with permission of the Undergraduate Academic advisors)</i>		TBA								TR 3
<b>BZ5935 PG</b>	Terrestrial Ecophysiology <i>*Only available to Postgraduate and Bachelor of Advanced Science students (or with permission of the Undergraduate Academic advisors)</i>										TR 3
<b>BZ5940 PG</b>	Evolutionary Adaptation in a Changing World <i>*Only available to Postgraduate and Bachelor of Advanced Science students (or with permission of the Undergraduate Academic advisors)</i> <b>MIXED Attendance</b>						3C				





# College of Arts, Social Sciences, & Education

# Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	Block 3			Block 4			Trimester 3
					3A	3B	3C	4A	4B	4C	
AR1001	The World of Archaeology <b>MIXED Attendance</b>				TR 2 ext option						
AR2304	From Stonehenge to the Colosseum: Archaeology of Europe <b>EXTERNAL Subject</b>										TR 3 ext option
AR2407	Forensic Archaeology <b>MIXED Attendance</b>				TR 2 ext option						
AR3008	Boats and Beaches: The Archaeology of Coasts and Islands <b>EXTERNAL Option</b>										TR 3 ext option
AR3501	Ancestors and Emperors: The Rise and Fall of Ancient Societies <b>EXTERNAL Subject</b>			TR 1 ext							

# Chemistry

# Cairns

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

# Data Science

## Cairns

[illegible]

## Data Science *continued...*






Cairns

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



## EES (Earth Science & Geology)

## Cairns

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






## EES (Environmental Sciences)

## Cairns

[illegible]

## EES (Environmental Sciences) *continued...*

Cairns

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








# First Year Engineering

## Cairns

[illegible]








# Engineering (Electrical and Electronic)

Cairns

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


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

Cairns

<b>EE3300</b>	Electronics Applications <i>PREREQ: EE2300-Electronics and circuit design</i>				BLK 2							
<b>EE3400</b>	Power System Analysis <i>PREREQ: EE2201-Circuit theory</i>											TR 3
<b>CC3501</b>	Embedded Systems Design and Interfacing <i>PREREQ: CC2511-Digital logic and embedded systems</i>					TR 2						
<b>EE3600</b>	Automation and Control Systems <i>PREREQ: EG1012-Electric circuits and MA2000-Intro to multivariate calculus and ordinary and partial differential equations</i>											TR 3
<b>EE3700</b>	Communications Systems Principles <i>PREREQ: EE2201-Circuit theory</i>											TR 3
<b>EE3901</b>	Sensor Technologies <i>PREREQ: EE2201-Circuit theory and CC2511-Digital logic and embedded systems</i>				BLK 2							
<b>EG4013</b>	Asset Management, Maintenance, and Reliability <i>PREREQ: (EG1000 and EG1002 and EG1010 and EG1011 and EG1012 and MA1000 and MA1003 and (PH1005 or EG1001)) or 36 credit points</i>					TR 2						
<b>EE4310</b>	Power Electronics <i>PREREQ: EE2201-Circuit theory and EE3600-Automation and control systems</i>					TR 2						
<b>EE4400</b>	Renewable System Integration <i>PREREQ: EE3400-Power system analysis</i>					TR 2						
<b>EE4500</b>	Design Project <i>PREREQ: EE3600-Automation and control systems and EE3300- Electronics applications and EE3010-Digital signal processing</i>				BLK 2							






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

Cairns

<b>EE4600</b>	Control System Design <i>PREREQ: EE3600-Automation and control systems</i>				BLK 2							
<b>EE5901</b>	Advanced Sensor Technologies				BLK 2							

# Engineering (Electrical and IOT)



Cairns

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



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

Cairns

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

## Information Technology (IT)

## Cairns

[illegible]


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

## Cairns

[illegible]

# Mathematics

# Cairns

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





## Mathematics *continued*...

## Cairns


[illegible]

# Physics

# Cairns

Code	Title	Fieldtrip and/or Lab	Field Trip Location	Trimester 1	Block 3			Block 4			Trimester 3
					3A	3B	3C	4A	4B	4C	
PH1005	Newtonian Physics <i>PREREQ: MA1020-Preparatory mathematics or equivalent</i>				TR 2						
PH2002	Classical Mechanics <i>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 or (EG1012-Electric circuits and EG1011-Statics and dynamics))</i>										TR 3
PH2019	Electromagnetism and Optics <i>PREREQ: MA1003-First year calculus which includes differential equations and basic linear algebra and (PH1005-First year physics or EG1012-Electric circuits)</i>				TR 2						
SC3010	Sensors and Sensing for Scientists <i>PREREQ: SC2202/SC2209-statistics</i>			TR 1							

## Special Research & Internship Opportunities -Townsville & Cairns

Research Projects and Work-Integrated Learning (2025)	
<p><b>SC3003: Science Research Internship-UG</b>  <b>Prerequisites: GPA of 5.5/7.0 or equivalent</b></p> <p>This subject is designed for students who are passionate about exploring the possibility of a research career in science and want to try their hand at research in a low-risk setting by undertaking a small scale (100 hour) independent research project. In consultation with staff, students will participate in existing research projects or co-design projects. Students will have an opportunity to develop research skills and contribute new insights into an area of personal academic interest. The subject is pass/fail and the main assessment consists of a scientific report and research presentation. To request enrolment in this subject student's should (1) attain written approval from a research supervisor (usually an academic or research staff member in the College), (2) identify a project in consultation with the supervisor, and (3) then email that supervisor confirmation and a brief description of the project and study period to the JCU Placements team who will approve your enrolment into the subject.</p>	
<p><b>SC3008: Professional Placement-UG</b>  <b>Prerequisites: STUDENTS MUST HAVE SUCCESSFULLY COMPLETED 12 SECOND YEAR CREDIT POINTS. ENROLMENT IS RESTRICTED TO STUDENTS WITH AN APPROVED PLACEMENT.</b></p> <p>This is the Work Integrated Learning subject for multiple undergraduate science degrees in the final year of study. The subject is designed to integrate knowledge and skills developed throughout the degree in a practical workplace setting. Students undertake a professional placement in a relevant, approved industry workplace or via an industry relevant project (minimum 130 hours). Students may source their own professional placements to meet their career goals or apply for a sourced placement. Through a number of tasks, students will reflect upon personal and professional growth and evaluate the theory/practice nexus. Enrolment is restricted to students with an approved placement.</p>	<p><b>Work-Integrated Learning (WIL)</b></p>
<p><b>SC5008: Professional Placement -PG</b>  <b>Available to students only with the permission of the Subject Coordinator.</b>  <b>Inadmissible Subject Combinations: SC5009</b></p> <p>Enrolment may only be approved by the Subject Coordinator. Please contact them directly to discuss eligibility and enrolment conditions. This subject is designed to integrate knowledge and skills developed throughout the degree in a practical workplace setting. Students undertake a professional placement in a relevant, approved industry workplace (minimum 140 hours) and through a number of tasks reflect upon personal and professional growth and evaluate the theory/practice nexus. growth and evaluate the theory/practice nexus.</p>	<p><b>Work-Integrated Learning (WIL)</b></p>