

JCU STUDY AREA GUIDE 2026

College of Science & Engineering

TABLE OF CONTENTS

3

TOWNSVILLE SUBJECTS		CAIRNS SUBJECTS	
Aquaculture	4	Bioinformatics	40
Bioinformatics	6	Biology (Ecology, Zoology and Evolution)	42
Biology (Ecology, Zoology and Evolution)	8	CASE-College of Arts, Society & Education	45
CASE-College of Arts, Society & Education	11	Chemistry	46
Chemistry	12	Data Science	47
Data Science	14	EES (Earth Science & Geology)	49
EES (Earth Science & Geology)	16	EES (Environmental Science)	50
EES (Environmental Science)	18	Engineering (First Year)	52
Engineering (First Year)	20	Engineering (Electrical and Electronic)	53
Engineering (Chemical)	21	Engineering (Electrical and IOT)	56
Engineering (Civil)	23	Information Technology-IT	58
Engineering (Mechanical)	26	Mathematics	60
Engineering (Electrical and Electronic)	28	Physics	62
Information Technology-IT	31	·	
Marine Biology	33		
Mathematics	36	Internships & Research Project Opportunities – Both	63
Physics	38	Campuses	



2026 JCU Trimester Calendar

Field Trip or Placement



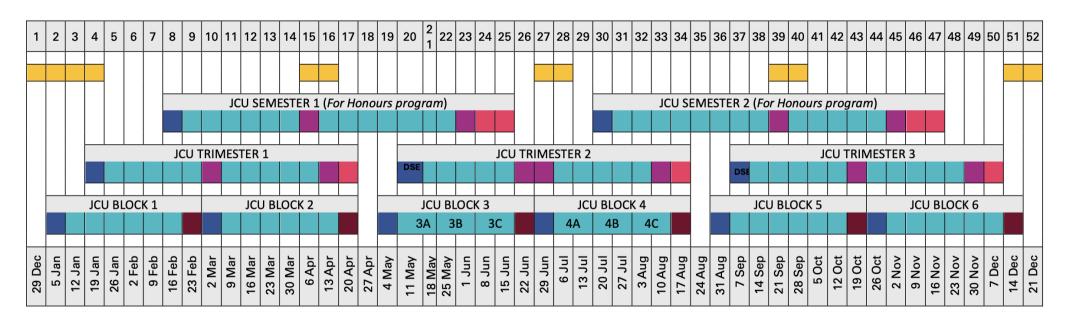


Computer Practical

2026 JCU Academic Calendar

College of Science & 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.





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.

Aquaculture Townsville

Codo	T:41 a	Fieldtrip	Field Trip	Trimester		Block 3	3		Block 4	1	Trimester
Code	Title	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	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	4							BLK 4		
AQ2001	Introduction to Aquaculture PREREQ: At least 12 credit points of Level 1 science	A		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	4		TR 1							
AQ3003/AQ5003 PG	Aquaculture: Propagation PREREQ: AQ2001 and at least 12 credit points of Level 2 science	<u></u>		TR 1							
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	4							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	\triangle							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				3A				
PH2006	Marine Physics								TR 3
CH2042	Marine Chemistry and Chemical Ecology PREREQ: CH1001-First year chemistry	Δ	Orpheus Island Research Station (OIRS)	TR 1					
MB2080/MB5380 PG	Invertebrate Biology PREREQ: BS1007-First year plant and animal biology	Δ				3В			
MB3150/MB5003 PG	Fisheries Science PREREQ: SC2202/SC2209-Statistics or BS2460- Ecology	Δ		TR 1					
AQ3015/AQ5015 PG	Sustainable Aquaculture PREREQ: At least 12 credit points of Level 2 science	Δ				3В			
AQ5006 PG	Aquaculture: Principles and Practices			TR 1					
AQ5012 PG	Aquaculture: Hatchery Techniques								TR 3

Bioinformatics

Townsville

Code	Title	Fieldtrip	Field Trip	Trimester		Block :	3		Block 4	4	Trimester 3
Code	Tiue	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	
MA1000	Mathematical Foundations PREREQ: MA1020-Preparatory mathematics or equivalent			TR 1			TI	R 2			
BM1201	Energy Metabolism: Powering Life PREREQ: Senior chemistry or CH1020- Preparatory chemistry						Т	R2			
CP1401/CP5639 PG	Problem Solving and Programming I EXTERNAL Option			TR 1 ext option				R 2 ext			
CP1404/CP5632 PG	Programming II PREREQ: CP1401-First year programming							R 2 ext			TR 3 ext option
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						TF	₹2			
BM2331	Bioinformatics I: Decoding DNA PREREQ: CP1401-First year programming and BM1201-Energy metabolism										TR 3
CP2403/CP3413 PG	Information Processing and Visualisation PREREQ: At least 12 credit points of subjects			TR 1 ext option							
CP2404/CP5633 PG	Database Modelling										TR 3 ext option
BM3331	Bioinformatics II: Mastering Big Genomic Data PREREQ: BM2331-Bioinformatics I and SC2202/09-statistics										TR 3

Bioinformatics continued...

MA2405	Advanced Statistical Modelling PREREQ: SC2202/SC2209- statistics and MA1000-First year mathematics					TR 3
MA2830	Data Visualization			R 2		
MA3212	Optimisation and Operations Research PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations and MA2210- Linear algebra		י	-R 2		
CP3403	Data Mining PREREQ: CP2403- Information Processing and Visualisation AND CP2404- Database Modelling	TR 1 ext option				
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		7	R 2		

Biology (Ecology, Zoology and Evolution)

Code	Title	Fieldtrip	Field Trip	Trimester		Block	3		Block 4	4	Trimester
Code	ritie	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
BS1001	Introduction to Biological Processes										TR 3
BS1007	Introduction to Biodiversity	Δ	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 (Note: Pre-enrolment conditions may apply)	FORTING STATES		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		Orpheus Island Research Station (OIRS)				3C				
BZ2725/BZ5925 PG	Australian Terrestrial Diversity		On campus								TR 3
SC2202/SC2209	Quantitative Methods in Science* PREREQ: SC1102/SC1109-Intro statistics and RStudio module available immediately upon enrolment at JCU. * SC2209 only available in TR 1 (Note: Pre- enrolment conditions may apply)	ACCES COMPANY		TR 1							TR 3
BZ3001	Field Studies in the Equatorial Tropics: Borneo MIXED Attendance PREREQ: SC2202-statistics and BS2460- Ecology (Note: Pre-enrolment conditions apply)		Borneo (Malaysia)							4C	

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

SC3010	Sensors and Sensing for Scientists PREREQ: SC2202/SC2209-Statistics (Note: Pre-enrolment condition of Maths B and Senior Chemistry (or MA1020 and CH1020 OR CH1001 may apply)			TR 1					
BZ3061/BZ5061 PG	Behavioural Ecology PREREQ: 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	manaon		TR 1					TR 3 ext
BZ3220/BZ5220 PG	Population and Community Ecology PREREQ: SC2202/SC2209-Statistics and (BS2460- Ecology or 3 credit points of Level 2 BZ/BS)		Local Fieldwork	TR 1					
BZ3225/BZ5225 PG	Technological Applications in Ecology PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology EXTERNAL Subject	Personal	Modules						TR 3 ext
BZ3230/BZ5230 PG	Ecological Research Methods PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology MIXED Attendance		Daintree Rainforest Observatory (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	/mannara				3B			
BZ3740/BZ5740 PG	Wildlife Ecology and Management PREREQ: BS2460- Ecology or 3 credit points of level 2 BZ/BS		To be advised (will be remote fieldwork)						TR 3
BZ3745/BZ5745 PG	Tropical Entomology PREREQ: BS1007-First year plant and animal biology and SC2202/SC2209- statistics MIXED Attendance		Local + Daintree Rainforest Observatory		ЗА				

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

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

College of Arts, Social Science, & Education

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

Chemistry

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

Chemistry continued... Townsville

CH3110	Special Topics in Analytical Chemistry PREREQ: CH2103-Analytical chemistry	4					TR3
CH3210	Applications in Inorganic Chemistry PREREQ: CH2210-Inorganic chemistry	4	TR 1				
CH3310	Special Topics in Organic Chemistry PREREQ: CH2310-Organic chemistry	4					TR 3

Data Science Townsville

Cada	Tial a	Fieldtrip	Field Trip	Trimester	ı	Block 3	3		Block 4	4	Trimester
Code	Title	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
MA1000	Mathematical Foundations PREREQ: MA1020-Preparatory mathematics or equivalent			TR 1			Ti	R 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 ext				TR 3 ext option		
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						TI	R 2			
CP2403/CP3413 PG	Information Processing and Visualisation PREREQ: At least 12 credit points of subjects			TR 1 ext option							
CP2404/CP5633 PG	Database Modelling										TR 3 ext option

Data Science *continued...*Townsville

MA2405	Advanced Statistical Modelling PREREQ: SC2202/SC2209-statistics and MA1000-First year mathematics							TR 3
MA2830	Data Visualization				TF	₹2		
MA3212	Optimisation and Operations Research PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations and MA2210- Linear algebra				TF	₹2		
CP3403	Data Mining PREREQ: CP2403- Information Processing and Visualisation AND CP2404- Database Modelling	TR ext o						
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				TF	₹2		

EES (Earth Science & Geology)

0.1.		Fieldtrip	Field Trip	Trimester		Block 3	3		Block 4	4	Trimester
Code	litie	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
EA1110	Evolution of the Earth	<u> </u>									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	<u> </u>									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	4		TR 1							
EA2404/EA5404 PG	Earth's Climate: Past, Present and Future PREREQ: At least 9 credit points of level 1 subjects	4									TR 3
EA2510/EA5320 PG	Earth Resources, Exploration and Environment PREREQ: At least 9 credit points of level 1 subjects	4									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		Fanning River		3A						

EES (Earth Science & Geology) continued...

EA3007/EA5018 PG	Field Studies in Tropical Land and Water Science PREREQ: At least 9 credit points of level 2 subjects including EA2006-Hydrology		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-Earth Materials: Minerals and Magmas	<u> </u>		TR 1					
EA3207/EA5017 PG	Soil Properties and Processes for Management PREREQ: At least 9 credit points of level 1 subjects	4		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	4				3C			
EA3400/EA5043 PG	Ore Deposits and Critical Mineral Exploration PREREQ: At least 9 credit points of level 2 subjects including EA2220-Earth Materials: Minerals and Magmas	4							TR 3
EA3510/EA5044 PG	Geological Mapping PREREQ: At least 9 credit points of level 2 subjects including EA2220-Earth Materials: Minerals and Magmas		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		Orpheus Island Research Station (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	<u> </u>							TR 3

EES (Environmental Science)

Code	Title	Fieldtrip	Field Trip	Trimester		Block 3	3		Block 4	4	Trimester
Code		and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
EV1005	Environmental Processes and Global Change	A		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 Research Station			3B					
EV2502/EV5505 PG	Geographic Information Systems PREREQ: At least 9 credit points of level 1 subjects	FREE SECTION .						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...

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		Orpheus Island Research Station (OIRS)		ЗА				
EV3502/EV5502 PG	Advanced Geographic Information Systems PREREQ: At least 9 credit points of level 2 subjects including EV2502. Allow concurrent enrolment for EV2502	/managam							TR 3
EV3506/EV5506 PG	Remote Sensing PREREQ: At least 9 credit points of level 2 subjects including EV2502. Allow concurrent enrolment for EV2502	manana						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	Field Trip	Trimester		Block 3	3		Block 4	4	Trimester
Code	ride	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	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-Mathematical Foundations						TI	R 2			TR 3
PH1005	Newtonian Physics PREREQ: MA1020-Preparatory mathematics or equivalent						TI	R 2			
EG1010	Process Engineering										TR 3
EG1011	Statics and Dynamics PREREQ: PH1005-Newtonian Physics (allow concurrent enrolment)						TI	R 2			
EG1012	Electric Circuits										TR 3

Engineering (Chemical)

Code		Fieldtrip		Trimester		Block	3		Block 4	4	Trimester
Coue	Tiue	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
CH1001	Chemistry: The Central Science PREREQ: CH1020 or high school chemistry equivalent	<u></u>					TI	R 2			
CH1002	Chemistry: Principles and Applications PREREQ: CH1001-First year chemistry	4									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 3
EG3000	Introduction to Systems Engineering Project Management PREREQ: Successful completion of first year of engineering	(magan)		BLK 2							

Engineering (Chemical) continued...

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				TF	₹2		
ME3512	Heat and Mass Transfer PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations				TF	R 2		
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				TF	R 2		
CL4537	Minerals and Solids Processing PREREQ: completed 48 credit points of Engineering subjects	<u></u>			TF	R 2		
CL4538	Bioprocess Engineering PREREQ: CL2502-Chemical engineering thermodynamics and CL3021-Mass transfer operations and CL3030-Reactor design							TR 3

Engineering (Civil) Townsville

Code	Title	Fieldtrip	Field Trip	Trimester		Block 3	3		Block 4	1	Trimester
Code	ride	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	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	Δ									TR 3
CS2003	Introduction to Structural Design PREREQ: CS2001-Engineering strength of materials						TF	R 2			
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	- FRANCISCO		BLK 2							
CS3000	Structural Analysis PREREQ: CS2003-Structural design and MA2000-Intro to multivariate calculus and ordinary and partial differential equations			BLK 2							

Engineering (Civil) continued...

CS3001	Concrete Engineering PREREQ: CS2001-Engineering strength of materials	A			TF	₹ 2		
CS3002	Soil Mechanics and Geology PREREQ: CS2005-Geotechnical engineering	A						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				TF	R 2		
CS4001	Foundation Engineering and Rock Mechanics PREREQ: CS3002-Soil mechanics and geology	4	BLK 2					
CS4002	Hydraulic and Coastal Engineering	4	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				TF	₹2		
CS4008	Water and Wastewater Engineering PREREQ: 48 credit points of undergraduate subjects including CS2002- Lake engineering and EG1010- Process engineering				TF	₹2		

Engineering (Civil) continued...

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	<u> </u>						TR 3
CS5108	Advanced Ground Water Modelling and Management PREREQ: CS2002-Catchment, stream and lake engineering							TR 3
CS5202	Advanced Catchment, Stream and Lake Engineering	4						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				TF	R 2		
CS5402	Advanced Hydraulic and Coastal Engineering		BLK 2					

Engineering (Mechanical)

Code	Title	Fieldtrip	Field Trip	Trimester		Block :	3		Block 4	4	Trimester
Code	ride	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	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	Δ					TF	₹ 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	PARTITION OF		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...

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					T	R 2			
ME3525	Mechanical Design and Bulk Materials Handling PREREQ: EG3001-Finite element analysis and ME2525-Machine element design									TR 3
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	<u></u>	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					TI	R 2			

Engineering (Electrical and Electronic)

Codo	Tidle	Fieldtrip	Field Trip	Trimester 1		Block 3	3	Block 4			Trimester
Code	Title	and/or Lab	Location		3A	3B	3C	4A	4B	4C	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										
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	mannas.		BLK 2							
EE3010	Digital Signal Processing PREREQ: At least 48 credit points of engineering				TR 2						

Engineering (Electrical and Electronic) continued...

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					TF	₹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	A		TR2						
EE4310	Power Electronics PREREQ: EE2201-Circuit theory and EE3600-Automation and control systems					TF	₹2			
EE4400	Renewable System Integration PREREQ: EE3400-Power system analysis					TF	₹ 2			
EE4500	Electrical and Electronic System Design Project PREREQ: EE3600-Automation and control systems and EE3300- Electronics applications and EE3010-Digital signal processing		BL 2							
EE4600	Control System Design PREREQ: EE3600-Automation and control systems		BLK 2							
EE5300	Electronics Applications		BLK 2							
EE5310	Power Electronics					TF	R 2	•		

Engineering (Electrical and Electronic) continued...

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	BLK 2							
EE5610	Industrial System Automation and Control PREREQ: EE5310-Power electronics								TR 3

Information Technology (IT)

0.1.	7-11	Fieldtrip	Field Trip	Trimester		Block	3		Block 4	4	Trimester
Code	Title	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
CP1401/CP5639 PG	Problem Solving and Programming I			TR 1 ext option				R 2 ext			
CP1402/CP5631 PG	Internet Fundamentals			TR 1 ext option							
CP1403/5631 PG	Design Thinking I										TR 3 ext option
CP1404/CP5632 PG	Programming II PREREQ: CP1401-First year programming							R 2 ext			TR 3 ext option
CP1406/CP5638 PG	Web Design and Development			TR 1 ext option							
CP1407	Introductory Machine Learning and Data Science							R 2 option			
CP1409	Operating Systems and Shell Scripting				TR 2 ext option						
CP2403/CP3413 PG	Information Processing and Visualisation PREREQ: At least 12 credit points of subjects			TR 1 ext option							
CP2404/CP5633 PG	Database Modelling										TR 3 ext option
CP2405/CP5635 PG	Collective Intelligence and Entrepreneurship PREREQ: At least 24 credit points of subjects							R 2 option			
CP2406	Programming III PREREQ: CP1404-Programming in Python										TR 3 ext option
CP2408	Design Thinking II PREREQ: CP1403-First year design thinking			TR 1 ext							TR 3 ext option
CP2410	Algorithms and Data Structures							R 2 option			
CP2414	Network Security PREREQ: CP1402-Internet fundamentals			TR 1 ext option							
CP2501/CP3511 PG	Cloud Computing										TR 3 ext option

Information Technology (IT) continued...

CP3402/CP5637 PG	Content Management Systems						
	PREREQ: CP1040-Programming in Python	TR 1					
	and CP1406-Web design and 24 credit	ext option					
	points of CP subjects						
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 ext option					
CP3404	Information Security PREREQ: CP-Network security or 18 credit points of subjects including CP1402- Internet fundamentals		TR 2 ext				
CP3405	Design Thinking III PREREQ: CP2408-Design thinking			TR 3 ext option			
CP3406/CP5307 PG	Mobile Computing PREREQ: CP1404-Programming in Python and 18 credit points of CP subjects		TR 2 ext option				
CP3407	Advanced Software Engineering PREREQ: CP1404-Programming in Python and 18 credit points of CP subjects	TR 1 ext option					
CP3501	Deep Learning		TR 2 ext option				
CP3511	Cloud Computing			TR 3 ext option			

Marine Biology Townsville

Ondo	Title	Fieldtrip	Field Trip	Trimester		Block 3	3		Block 4	1	Trimester
Code	Title	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
MB1110	Introductory Marine Science PREREQ: CH1020-Preparatory Chemistry or equivalent and MA1020-Preparatory Mathematics or equivalent, allow concurrent for CH1020 and MA1020	<u> </u>							BLK 4		
PH2006	Marine Physics										TR 3
CH2042	Marine Chemistry and Chemical Ecology PREREQ: CH1001-First year chemistry	<u> </u>	Orpheus Island Research Station (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		Local Fieldwork								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	mannon		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	4					3C				

Marine Biology continued...

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		Orpheus Island Research Station (OIRS)				4B	
MB3190/MB5190 PG	Coral Reef Ecology PREREQ: BS2460-Ecology		Orpheus Island Research Station (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		Orpheus Island Research Station (OIRS)	TR 1				
MB3270/MB5270 PG	Coastal, Estuarine and Mangrove Ecosystems PREREQ: B\$1007-First year plant and animal biology and B\$2460- Ecology and \$C2202/\$C2209- Statistics				3B			
EV3201/EV5701 PG	Coastal and Marine Management PREREQ: At least 9 credit points of level 1 subjects MIXED Attendance - Undergraduate INTERNAL - Postgraduate	<u> </u>		TR 1				

Marine Biology continued...

EV3401/EV5401 PG	Coastal and Catchment Geomorphology PREREQ: At least 9 credit points of level 1 subjects	Δ	To be advised						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		Orpheus Island Research Station (OIRS)		ЗА				
SC5502 PG	Design and Analyses in Ecological Studies Basic understanding of statistics required which includes knowledge of basic probability, t-tests and ANOVA. RStudio module available immediately upon enrolment at JCU.	/connects		TR 1					
MB5000 PG	Advances in Marine Biology		Orpheus Island Research Station (OIRS)				4A		
MB5001	Tropical Marine Ecology and Coastal Impacts		Thailand?						TR 3
BS5260 PG	Modelling Ecological Dynamics *Only available to Postgraduate and Bachelor of Advanced Science students	estations.		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		Galapagos					3C	

Mathematics

Townsville

0.1.	Title	Fieldtrip	Field Trip	Trimester 1		Block	3		Block 4	4	Trimester
Code	Title	and/or Lab	Location		3A	3B	3C	4A	4B	4C	3
MA1020	Preparatory Mathematics EXTERNAL Option			TR 1 ext option				R 2 option			TR 2 ext option
MA1000	Mathematical Foundations PREREQ: MA1020-Preparatory mathematics or equivalent			TR 1			T	R 2			
MA1003	Mathematical Techniques PREREQ: MA1000-First year mathematics						T	R 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						

Mathematics 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				TF	R 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

Cada	Tialo	Fieldtrip	Field Trip	Trimester		Block 3	3		Block 4	4	Trimester
Code	Title	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
PH1005	Newtonian Physics PREREQ: MA1020-Preparatory mathematics or equivalent	<u></u>					TF	R 2			
PH1007	Fundamental Physics PREREQ: MA1020-Preparatory mathematics or equivalent and PH1005-First year physics										TR 3
PH2002	Classical Mechanics 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))										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)						TF	₹2			
PH2048	Medical and Radiation Physics 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))	<u> </u>		TR 1							
PH3002	Advanced Quantum Physics PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations	4					TF	₹ 2			

Physics continued... Townsville

PH3006	Physics of the Ocean and Atmosphere 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))	<u> </u>					TR 3
PH3008	Statistical Mechanics and Transport 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))	<u> </u>					TR 3
PH3021	Physics of the Earth, Solar System, and Universe 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))		TR 1				
SC3010	Sensors and Sensing for Scientists PREREQ: SC2202/SC2209-statistics		TR 1				

Bioinformatics

Code	Title	Fieldtrip	Field Trip	Trimester		Block :	3	ı	Block 4	4	Trimester
Code	ritte	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
MA1000	Mathematical Foundations PREREQ: MA1020-Preparatory mathematics or equivalent			TR 1			TI	R 2			
CP1401/CP5639 PG	Problem Solving and Programming I EXTERNAL Option			TR 1 ext option				R 2 ext			
CP1404/CP5632 PG	Programming II PREREQ: CP1401-First year programming							R 2 ext			TR 3 ext option
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						TF	₹2			
BM2331	Bioinformatics I: Decoding DNA PREREQ: CP1401-First year programming and BM1201-Energy metabolism	- SONGER									TR 3
CP2403/CP3413 PG	Information Processing and Visualisation PREREQ: At least 12 credit points of subjects			TR 1 ext option							
CP2404/CP5633 PG	Database Modelling										TR 3 ext option
MA2405	Advanced Statistical Modelling PREREQ: SC2202/SC2209- statistics and MA1000-First year mathematics										TR 3

Bioinformatics

Dionino	111141105						Calli	.0
MA2830	Data Visualization				T	R 2		
MA3212	Optimisation and Operations Research PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations and MA2210- Linear algebra				Т	₹2		
BM3331	Bioinformatics II: Mastering Big Genomic Data PREREQ: BM2331-Bioinformatics I and SC2202/09-statistics	ACCEPTANT OF THE PARTY OF THE P						TR 3
CP3403	Data Mining PREREQ: CP2403- Information Processing and Visualisation AND CP2404- Database Modelling		TR 1 ext option					
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				TI	₹2		

Biology (Ecology, Zoology and Evolution)

Code	Title	Fieldtrip	Field Trip	Trimester		Block :	3		Block 4	4	Trimester
Code	riue	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	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 (Note: Pre-enrolment conditions may apply)	manana		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		Orpheus Island Research Station (OIRS)				3C				
BZ2725/BZ5925 PG	Australian Terrestrial Diversity		On campus								TR 3
BZ3001	Field Studies in the Equatorial Tropics: Borneo MIXED Attendance PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology (Note: Pre-enrolment conditions may apply)		Borneo (Malaysia)							4C	
SC3010	Sensors and Sensing for Scientists PREREQ: SC2202/SC2209-Statistics (Note: Pre-enrolment condition of Maths B and Senior Chemistry (or MA1020 and CH1020 OR CH1001 may apply)			TR 1							
BZ3061/BZ5061 PG	Behavioural Ecology PREREQ: 6 credit points of Level 2 Science		Local Fieldwork	TR 1							

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

BZ3220/BZ5220 PG	Population and Community Ecology PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology	reconnect .		TR 1					
BZ3225/BZ5225 PG	Technological Applications in Ecology PREREQ: SC2202/SC2209-Statistics and (BS2460- Ecology or 3 credit points of Level 2 BZ/BS) EXTERNAL Subject		Modules						TR 3 ext
BZ3230/BZ5230 PG	Ecological Research Methods PREREQ: SC2202/SC2209-Statistics and BS2460- Ecology MIXED Attendance		Daintree Rainforest Observatory (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	manana				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 BZ/BS	\$ _	To be advised (will be remote fieldwork)						TR 3
BZ3745/BZ5745 PG	Tropical Entomology PREREQ: BS1007-First year plant and animal biology and SC2202/SC2209- Statistics MIXED Attendance		Local + Daintree Rainforest Observatory		ЗА				
BZ5215 PG	Conservation Biology MIXED Attendance			TR 1					
BS5260 PG	Modelling Ecological Dynamics *Only available to Postgraduate and Bachelor of Advanced Science students (or with permission of the Undergraduate Academic advisors) MIXED Subject	(OSTANCIO)		TR 1					

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

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

College of Arts, Social Sciences, & Education

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

Chemistry

Code	Title	Fieldtrip	Field Trip	Trimester		Block :	3		Block 4	1	Trimester
Code	Title	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
BR0301	Preparatory Chemistry EXTERNAL Subject (domestic only)	ensimmers.		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	4			TR 2						
CH3041/CH5041 PG	Environmental Chemistry PREREQ: CH1020-Preparatory Chemistry or CH1001-First year chemistry MIXED Attendance			TR 1							

Data Science Cairns

Cada	Title	Fieldtrip	Field Trip	Trimester		Block (3		Block 4	4	Trimester
Code	ritte	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
MA1000	Mathematical Foundations PREREQ: MA1020-Preparatory mathematics or equivalent			TR 1			TI	R 2			
CP1401/CP5639 PG	Problem Solving and Programming I EXTERNAL Option			TR 1 ext option				R 2 ext			
CP1404/CP5632 PG	Programming II PREREQ: CP1401-First year programming							R 2 ext			TR 3 ext option
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						TF	₹2			
CP2403/CP3413 PG	Information Processing and Visualisation PREREQ: At least 12 credit points of subjects			TR 1 ext option							
CP2404/CP5633 PG	Database Modelling										TR 3 ext option
MA2405	Advanced Statistical Modelling PREREQ: SC2202/SC2209-statistics and MA1000-First year mathematics										TR 3

Data Science continued... Cairns

MA2830	Data Visualization			TI	R 2		
MA3212	Optimisation and Operations Research PREREQ: MA2000-Intro to multivariate calculus and ordinary and partial differential equations and MA2210- Linear algebra			TI	₹2		
CP3403	Data Mining PREREQ: CP2403- Information Processing and Visualisation AND CP2404- Database Modelling	TR 1 ext option					
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			TI	₹2		

EES (Earth Science & Geology)

Code	Title	Fieldtrip	Field Trip	Trimester		Block (3		Block 4	4	Trimester
Code	riue	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
EA1110	Evolution of the Earth	4									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	4									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	<u> </u>		TR 1							

EES (Environmental Sciences)

Code	T:41a	Fieldtrip	Field Trip	Trimester		Block 3	3		Block 4	4	Trimester
Code	Title	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
EV1005	Environmental Processes and Global Change	A		TR 1							
EV1008	Human Geography	A									TR 3
EV2301/EV5301 PG	Urban Geography PREREQ: At least 9 credit points of level 1 subjects	CONTRACTOR OF THE PARTY OF THE									TR 3
EV2401	Australian Landscape Processes and Evolution PREREQ: At least 9 credit points of level 1 subjects		Fletcherview Research Station			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...

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	Parameter						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	Title Fieldtrip Field Trip Trimester			Block 3	3		Block 4	Trimester		
Code	ride	and/or Lab	b Location	1	3A	3B	3C	4A	4B	4C	3
EG1000	Engineering I	Δ		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	A					TF	R 2			
EG1010	Process Engineering	4			TR 2						
EG1011	Statics and Dynamics PREREQ: PH1005-First year physics	Δ									TR 3
EG1012	Electric Circuits										TR 3

Engineering (Electrical and Electronic)

0.1.	-	Fieldtrip	Field Trip	Trimester		Block	3		Block 4	4	Trimester
Code	Title	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	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	旦益			TR 2						

Engineering (Electrical and Electronic) continued...

EE3300	Electronics Applications		5114					
LLSSOO	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				TF	R 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	△			TF	₹2		
EE4310	Power Electronics PREREQ: EE2201-Circuit theory and EE3600-Automation and control systems				TF	₹2		
EE4400	Renewable System Integration PREREQ: EE3400-Power system analysis				TF	₹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...

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

Engineering (Electrical and IOT)

Codo	Tialo	Fieldtrip	Field Trip	Trimester		Block 3	3		Block 4	1	Trimester
Code	Title	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
CP1404	Programming II PREREQ: CP1401-First year programming							R 2 ext			TR 3 ext option
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	mannan		BLK 2							

Engineering (Electrical and IOT) continued...

EE3010	Digital Signal Processing PREREQ: At least 48 credit points of engineering				TI	₹2		
CP3403	Data Mining PREREQ: CP2403- Information Processing and Visualisation and CP2404- Database Modelling		TR 1 ext option					
CP3406	Mobile Computing PREREQ: CP1404-Programming in Python and 18 credit points of CP subjects					R 2 option		
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				TF	₹2		

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

Information Technology (IT) continued...

			-				
CP3402/CP5637 PG	Content Management Systems PREREQ: CP1040-Programming in Python and CP1406-Web design and 24 credit points of CP subjects	TR 1 ext option					
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 ext option					
CP3404	Information Security PREREQ: CP-Network security or 18 credit points of subjects including CP1402- Internet fundamentals				R 2 xt		TR 3 ext option
CP3405	Design Thinking III PREREQ: CP2408-Design thinking						TR 3 ext option
CP3406/CP5307 PG	Mobile Computing PREREQ: CP1404-Programming in Python and 18 credit points of CP subjects			TF ext o	R 2 ption		
CP3407	Advanced Software Engineering PREREQ: CP1404-Programming in Python and 18 credit points of CP subjects	TR 1 ext option					
CP3501	Deep Learning			TF ext o			
CP3511	Cloud Computing						TR 3 ext option
CP5601	Advanced Data Communications Principle	TR 1					
CP5602	Advanced Algorithm Analysis						TR 3
CP5603	Advanced E-Security						TR 3
CP5607	Advanced Human Computer Interaction			TF	R 2		
CP5632	Programming I						TR 3
CP5634	Data Mining	TR 1					
CP5637	Content Management Systems	TR 1					
CP5641	Design Thinking Principles						TR 3

Mathematics

Code	Tial -	Fieldtrip	Field Trip	Trimester		Block 3	3		Block 4	4	Trimester
Code	Title	and/or Lab	Location	1	3A	3B	3C	4A	4B	4C	3
MA1020	Preparatory Mathematics EXTERNAL Option			TR 1 ext option							
MA1000	Mathematical Foundations PREREQ: MA1020-Preparatory mathematics or equivalent			TR 1			ТІ	R 2			
MA1003	Mathematical Techniques PREREQ: MA1000-First year mathematics						TI	R 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						ТІ	R 2			
MA2405	Advanced Statistical Modelling PREREQ: SC2202/SC2209-statistics and MA1000-First year mathematics										TR 3
MA2830	Data Visualization						TI	R 2			

Mathematics 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				TF	R 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	Block 3			Block 4			
					3A	3B	3C	4A	4B	4C	Trimester 3
PH1005	Newtonian Physics PREREQ: MA1020-Preparatory mathematics or equivalent	4					TF	R 2			
PH2002	Classical Mechanics 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))	A									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						
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)						
SC3003: Science Research Internship-UG Prerequisites: GPA of 5.5/7.0 or equivalent						
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.						
SC3008: Professional Placement-UG Prerequisites: STUDENTS MUST HAVE SUCCESSFULLY COMPLETED 12 SECOND YEAR CREDIT POINTS. ENROLMENT IS RESTRICTED TO STUDENTS WITH AN APPROVED PLACEMENT.						
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.	Work-Integrated Learning (WIL)					
SC5008: Professional Placement -PG Available to students only with the permission of the Subject Coordinator. Inadmissible Subject Combinations: SC5009						
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.	Work-Integrated Learning (WIL)					