DEGREE PROGRAM Master of Science-Professional **MAJOR** Environmental Earth Science (MSC-EES)

RECOMMENDED STUDY PLAN 2020-2021

NAME _____ **STUDENT NUMBER** _____

DEGREE PROGRAM Master of Science-Professional **MAJOR** Environmental Earth Science (MSC-EES)

Course information – Master of Science (Professional)

The Master of Science (Professional) degree is structured such that students take sets of (1) foundational '*knowledge*' specific to their major, (2) technical and / or analytical '*skills*' subjects (3) *elective* subjects and (4) a capstone *project* module.

Click here to see the relevant JCU Course handbook: https://www.jcu.edu.au/course-and-subject-handbook/courses/postgraduate-courses/master-of-science-professional

Environmental Earth Science major structure:

1. Take 4 prescribed '*knowledge*' subjects
   - 1.1. EA5016:03 Hydrology
   - 1.2. EA5017:03 Soil Properties and Processes
   - 1.3. EA5046:03 Earth and Environmental Geochemistry
   - 1.4. EA5404:03 From Icehouse to Greenhouse

2. Take 4 '*skills*' subjects for your major
   - 2.1. EA5018:03 Field Studies in Tropical Land and Water Science
   - 2.2. Plus 1 of the following *advanced skills* subject
     - 2.2.1. BS5260:03 Modelling Ecological Dynamics ***or***
     - 2.2.2. BZ5450:03 Ecological and Conservation Genetics ***or***
     - 2.2.3. EV5110:03 Environmental and Social Impact Assessment ***or***
     - 2.2.4. EV5502:03 Advanced Geographic Information Systems ***or***
     - 2.2.5. EV5506:03 Remote Sensing
     - 2.2.6. MB5300:03 Sampling and Experimental Design ***or*** [1]
     - 2.2.7. SC5502:03 Design and Analyses in Ecological Studies
   - 2.3. Plus 2 subjects from **List 1**
3. Take 4 *elective* subjects (see recommended electives list)
4. Take 12 credit points of *Professional Practice* (select a stream)
   - 4.1. Option 1- Research Stream ***OR***
   - 4.2. Option 2- Professional Project Stream ***OR***
   - 4.3. Option 3- combined Research & Professional Project Stream

Full subject descriptions and timings of all subjects can be found online using the Subject Search tool. It is generally recommended to take 8 subjects per year, with 3 - 4 in SP1 and SP2 and additional subjects in block mode periods (SP3, SP7, SP10 /11) as necessary. You need to have fulfilled the 'Assumed Knowledge' or Prerequisites for any subject, before you take them. These are

[1] Not offered in 2020. Merged with SC5502.

listed in the subject's description. For example, EV5502 assumes you have already taken EV5505 or an equivalent at JCU or at your previous university.

RECOMMENDED STUDY PLAN

Colour legend: Pink are core 'major or knowledge' subjects, Grey are skills subjects, White are electives, Blue are professional practice.

Level 5: Year 1 (take 8 subjects / 24 credit points)

SP3	SP1	SP6/7	SP2	SP9/10/11
	Major Core: EA5016:03 Hydrology TSV + CNS	**Major Skill Core:** EA5018:03 Field Studies in Tropical Land and Water Science	**Major Core:** EA5017:03 Soil Properties and Processes. TSV + CNS	**Advanced Skill subject**
	Skill subject		**Major Core:** EA5046:03 Earth and Environmental Geochemistry	
	Skill subject		**Major Core:** EA5404:03 From Icehouse to Greenhouse	

Notes:
Boxes without specific subjects listed in them may be rearranged to meet your course needs as long as the total number of subjects and degree structure is met. For example, you may choose to move a SP1 elective in Year 1 to SP7 in Year 2.

Level 5: Year 2 (take 24 credit points)

SP3	SP1	SP6/7	SP2	SP10/SP11
Elective	**Elective**		**Professional Practice subjects (12cp)** Choose a stream	
	Elective			
	Elective			

Skill Subjects:

In addition to the **Major Core Skill Subject** (EA5018), choose 1 advanced skill subject 2 subjects from **List 1**. You must meet the Assumed Knowledge or Prerequisites for any subject selected.

Advanced Skill Subjects (Select 1)

SP3	SP1	SP2	SP9/SP10/SP11
SC5502:03 Design and Analyses in Ecological Studies TSV	BS5260:03 Modelling Ecological Dynamics TSV	BZ5450:03 Ecological and Conservation Genetics TSV	EV5502:03 Advanced Geographic Information Systems - TSV
		EV5110:03 Environmental and Social Impact Assessment	EV5506:03 Remote Sensing -CNS LTD (SP9)

List 1 – Additional Skill Subjects (Select 2)

SP3	SP1	SP6/7	SP2	SP9/SP10/SP11
SC5502:03 Design and Analyses in Ecological Studies TSV	SC5202:03 Quantitative Methods in Science [2]	EA5018:03 Field Studies in Tropical Land and Water Science [3]	BC5203:03 Advanced Bioinformatics	AQ5004:03 Aquaculture: Stock Improvement
MB5300:03 Sampling and Experimental Design [4]	BS5260:03 Modelling Ecological Dynamics	EA5330:03 Field Techniques [3]	BZ5450:03 Ecological and Conservation Genetics	EV5502:03 Advanced Geographic Information Systems - TSV
	EV5020:03 Human Dimensions of Nature, Environment and Conservation	SC5232:03 Marine Sensor Technologies and Applications [5]	CH5203:03 Analytical Chemistry (Advanced)	EV5506:03 Remote Sensing -CNS LTD (SP9)
		BZ5990:03 Toolkit for the Field Biologist	EV5110:03 Environmental and Social Impact Assessment	EA5640:03 Advanced Marine Geoscience Technologies and Applications
		EA5044:03 Geological Mapping[3]	EV5505:03 Introduction to Geographic	

[2] SC5202 is a required unit if you have not already completed a statistics subject at university.
[3] Not intended for students in Marine Biology, Fisheries, Aquaculture or Tropical Biology & Conservation
[4] Merged with SC5502 for 2020. SC5202 is a required unit if you have not already completed a statistics subject at university
[5] Not yet available

			Information Systems	
			MA5405:03 Data Mining	
			SC5202:03 Quantitative Methods in Science (mixed mode)	

Professional Practice Options

Select 1 Stream

Option 1 - Research Project Stream (*entrance conditions apply)* SC5912:06 **AND** SC5913:06 *You may choose which semesters you would like for each subject.*				
	SP1		**SP2**	
	SC5912:06 Minor Project, Seminar and Literature Review (Part 1)		SC5912:06 Minor Project, Seminar and Literature Review (Part 1)	
	SC5913:06 Minor Project, Seminar and Literature Review (Part 2)		SC5913:06 Minor Project, Seminar and Literature Review (Part 2)	
Option 2 - Professional Project Stream SC5009:12 *You may choose which semester to take this in.*				
	SP1		**SP2**	
	SC5009:12 Professional Project		SC5009:12 Professional Project	
Option 3 - Research & Professional Project Stream Select 12 credit points from:				
SP3	**SP1**	**SP6/7**	**SP2**	**SP10/SP11**
	SC5007:06 Professional Project		SC5007:06 Professional Project	
	SC5900:06 Special Topic		SC5900:06 Special Topic	
SC5901:03 Special Topic 1 *Note-This subject is available in any study period.*				
SC5902:03 Special Topic 2 *Note- This subject is available in any study period.*				
SC5008:03 Professional Placement *Note- This subject is available in any study period.*				

Elective subjects:

You can take any Level 5 subject with a prefix subject code of: AQ, BS, BZ, CH, EA, EV, MA, MB, MI, SC or TV. Other subjects can also be approved by your advisor.

Use *Subject* Search to review the units and check the study period

Recommended elective subjects for the ENVIRONMENTAL EARTH SCIENCE Major - These are our recommended elective subject sets for specific career pathways and/or study interests

TOPIC	STUDY PERIOD
Aquaculture electives:	
AQ5004:03 Aquaculture: Stock Improvement	10
Hydrology	
EA5090:03 Applied Hydrology (CNS only)	1
CH5041:03 Environmental Chemistry	1
EV5406:03 Coral Reef Geomorphology	1
EV5401:03 Coastal and Catchment Geomorphology	2
EV5454:03 Natural Hazards	2
EA5340:03 Disturbed Site Repair	2
Geology	
EA5320:03 Earth Resources, Exploration and Environment	1
EA5340:03 Disturbed Site Repair	2
EA5650:03 Sedimentary Environments and Energy Resources	2
EA5640:03 Advanced Marine Geoscience Technologies and Applications	11
EA5046:03 Earth and Environmental Geochemistry	2
Marine Science electives	
SC5502 Design & Analysis in Ecological Studies *Note-Prerequisite for this subject is a basic univariate statistics course from university.*	3
EV5406:03 Coral Reef Geomorphology	1
EA5640:03 Advanced Marine Geoscience Technologies and Applications	11
Surface Processes	
EV5015:03 Sustainability in Practice	1
EV5406:03 Coral Reef Geomorphology	1
EV5401:03 Coastal and Catchment Geomorphology	2
EV5454:03 Natural Hazards	2
EA5340:03 Disturbed Site Repair	2