Master of Science MAJOR Environmental Earth Science

This study plan should be used as a general guide for your course. We recommend you consult with your CSE Course/Major Advisor and particularly if your intended enrolment varies from this plan.

The information in the study plan is current at the time of creation and may be subject to future change. If you would prefer a part-time study plan, please adjust the below study planner; reviewing subject prerequisites to ensure you are on track for course completion.

Useful study planning/enrolment resources:
  To search for information on subjects: Subject Search
  To register for your classes: Class Registration
  For important dates check: Academic Calendars
  Further enrolment resources: Enrolment Resources

		STUDY PERIOD 2
Year 1		**Core** EA5017:03 Soil Properties and processes
		Core EA5046:03 Earth and Environmental Geochemistry
		Elective Select 3 credit points of any level 5 science subject
		Elective Select 3 credit points of any level 5 science subject

	STUDY PERIOD 1	STUDY PERIOD 2
Year 2	**Core** SC5200:03 Career Planning	**Core** EA5404:03 Earth's Climate: Past, Present, and Future
	Core EA5016:03 Hydrology	**Elective** Select 3 credit points of any level 5 science subject
	Elective Select 3 credit points from **List 1**	**Elective** Select 3 credit points of any level 5 science subject
		Elective Select 3 credit points of subjects from the specified list

STUDY PERIOD 3 (Jan-Feb)	STUDY PERIOD 6 (May-Jul)	STUDY PERIOD 10 (Nov-Jan)
	Core EA5018:03 Field Studies in Tropical Land and Water Science	

ADDITIONAL INFORMATION

Master of Science Handbook
Environmental Earth Science Major

SKILL SUBJECTS - List 1

STUDY PERIOD 1	STUDY PERIOD 2
BS5260:03 Modelling Ecological Dynamics *ASSUMED KNOWLEDGE: It would be advantageous for students to have a basic understanding of ECOLOGY and MATH.* *Postgraduate subject equivalent to: BS5460; undergraduate subject equivalent to: BS2460 plus any university math; or equivalent industry experience.*	**SC5502:03 Design and Analyses in Ecological Studies** *ASSUMED KNOWLEDGE: Students must have a good understanding of STATISTICS which includes knowledge of basic probability, t-tests, ANOVA and ability to use R for data analysis (or have done the JCU R Bootcamp). SC5202 or SC2202 or SC2209 or equivalent industry experience.* *Note: Not available in Tropical Biology, Fisheries or Global Change Biology Majors (it's already built into major)*
SC5202:03 Quantitative Methods in Science *ASSUMED KNOWLEDGE: It would be advantageous for students to have a familiarity with how to use R (or have done the "Getting Started with R module" within the JCU R Bootcamp).*	**BC5203:03 Advanced Bioinformatics** *ASSUMED KNOWLEDGE: Students must have a basic understanding of STATISTICS which includes knowledge of basic probability and ability to use R for data analysis (or have done the JCU R Bootcamp). SC5202 or SC2202 or SC2209 or will have acquired equivalent knowledge through industry experience.*
CH5041:03 Environmental Chemistry *ASSUMED KNOWLEDGE: Students must have a basic understanding of CHEMISTRY. They will have passed a university chemistry subject or will have acquired equivalent knowledge through industry experience.*	**BZ5450:03 Ecological and Conservation Genetics** *ASSUMED KNOWLEDGE: Students must have a good understanding of GENETICS and EVOLUTION which includes knowledge of DNA structure, microevolutionary processes, genetics of populations and genes and heredity. BS5470 or BC5101 or BS2470 or BC3101 or BC2023 or will have acquired equivalent knowledge through industry experience.*
	CH5203:03 Analytical Chemistry *ASSUMED KNOWLEDGE: Students must have a good understanding of CHEMISTRY which includes knowledge of atomic structure, bonding, periodicity, acids and bases. It would be advantageous for students to have a basic understanding of MATH. CH1001 and any university math or will have acquired equivalent knowledge through industry experience.*
	EV5110:03 Environmental and Social Impact Assessment
	EV5505:03 Introduction Geographic Information Systems
	MA5405:03 Data Mining *ASSUMED KNOWLEDGE: Students must have a good understanding of STATISTICS which includes knowledge of basic probability, hypothesis testing, law of large numbers, central limit theorum and ability to use R for data analysis (or have done the JCU R Bootcamp). SC5202 or SC2202 or SC2209 or will have acquired equivalent knowledge through industry experience.*
	BZ5225:03 Technological Applications in Ecology *ASSUMED KNOWLEDGE: Students must have a basic understanding of STATISTICS which includes knowledge of basic probability, t-tests, regression and ability to use R for data analysis (or have done the JCU R Bootcamp). SC5202 or SC2202 or SC2209 or will have acquired equivalent knowledge through industry experience.*

Note: SKILL SUBJECTS-List 1 continued on next page

STUDY PERIOD 3 (Jan-Feb)	STUDY PERIOD 6-7 (May-Jul)	STUDY PERIOD 9 (Sept-Nov)
EV5020:03 Human Dimensions of Nature, Environment and Conservation	BZ5990:03 Toolkit for the Field Biologist *ASSUMED KNOWLEDGE- Students must have a basic understanding of STATISTICS which includes knowledge of basic probability, experimental design, data distributions, statistical inferences from data and ability to use R for data analysis (or have done the JCU R Bootcamp). SC5202 or SC2202 or SC2209 or will have acquired equivalent knowledge through industry experience.*	EV5506:03 Remote Sensing *ASSUMED KNOWLEDGE: Students must have a basic understanding of GIS which includes knowledge of cartography. EV5505 or EV2502 or will have acquired equivalent knowledge through industry experience.*
	EA5018:03 Field Studies in Tropical Land and Water Science-SP6 *ASSUMED KNOWLEDGE: Students must have a good understanding of EARTH SCIENCE which includes knowledge of hydrology, soil science, geomorphology and ability to use Excel or R to do simple calculations (area, volume, rate calculations) and to plot graphs. (EV5016 or EA2006) and (EV5017 or EA2007 or EA3207) or will have acquired equivalent knowledge through industry experience.*	**STUDY PERIOD 10-11** (Nov-Jan)

	EA5044:03 Geological Mapping-SP6
	
	COREQ: Must enrol together with EA5045
	
	ASSUMED KNOWLEDGE: Students must have a good understanding of EARTH SCIENCE which includes knowledge of structural geology, metamorphic, igneous and sedimentary geology. EA5330 or EA5048 or EA3210 or EA2220 or will have acquired equivalent knowledge through industry experience.
	
	MUST BE TAKEN WITH:
	
	   EA5045:03 Field Techniques in Geology
	
	   COREQ: Must enrol together with EA5044
	
	   ASSUMED KNOWLEDGE: Same assumed knowledge as EA5044.
		AQ5004:03 Aquaculture: Stock Improvement
		
		ASSUMED KNOWLEDGE- Students must have a good understanding of GENETICS and EVOLUTION which includes knowledge of DNA structure, microevolutionary processes, genetics of populations and genes and heredity. It would be advantageous for students to have a basic understanding of AQUACULTURE which includes knowledge of aquatic organism physiology and an overview of aquaculture. (BS5470 or BC5101 or BS2470 or BC3101 or BC2023) and (AQ5006 or AQ2001) or will have acquired equivalent knowledge through industry experience.

		EA5640:03 Advanced Marine Geoscience Technologies and Applications *ASSUMED KNOWLEDGE- It would be advantageous for students to have a basic understanding of GIS and be able to use R for data analysis (or have done the JCU R Bootcamp). EV5505 or EV2502 or will have acquired equivalent knowledge through industry experience.*
	EA5330:03 Introductory Outback Field Geology *ASSUMED KNOWLEDGE: Students must have a basic understanding of EARTH SCIENCE which includes knowledge of rocks and minerals. EA1110 or will have acquired equivalent knowledge through industry experience.*	EV5502:03 Advanced Geographic Information Systems *ASSUMED KNOWLEDGE: Students must have a good understanding of GIS which includes knowledge of cartography, co-ordinate systems, basic spatial analysis, geography and be able to use standard GIS software. EV5505 or EV2502 or will have acquired equivalent knowledge through industry experience.*