DEGREE PROGRAM **Master of Science-Professional** **MAJOR** **Marine Biology (MSC-MBY)**

RECOMMENDED STUDY PLAN 2020-2021

NAME _____ **STUDENT NUMBER** _____

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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

Marine Biology major structure:

1. Take 3 prescribed '*knowledge*' subjects
   - 1.1. MB5055:03 Biological Oceanography
   - 1.2. MB5190:03 Coral Reef Ecology **OR** MB5270:03 Coastal, Estuarine and Mangrove Ecosystems
   - 1.3. MB5004:03 Marine Conservation Biology
2. Take 4 '*skills*' subjects for your major
   - 2.1. MB5300:03 Sampling and Experimental Design[1] **OR** SC5502:03 Design and Analyses in Ecological Studies
   - 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
   - 2.3. Plus 2 subjects from **List 1**
3. Take 5 *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 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.

[1] For 2020, this subject is merged with SC5502.

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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
Core Skill subject SC5502:03 Design and Analyses in Ecological Studies*	**Major core subject** MB5055:03 Biological Oceanography		**Major core subject** MB5190:03 Coral Reef Ecology * OR MB5270:03 Coastal, Estuarine and Mangrove Ecosystems	**Skill subject**
	Advanced skill subject		**Major core subject:** MB5004:03 Marine Conservation Biology	
	Elective		**Skill subject**	

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.
** Prerequisite for this subject is a basic univariate statistics course from university.*

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** (MB5300 OR SC5502), 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)

SP1	SP2	SP9/SP10/SP11
BS5260:03 Modelling Ecological Dynamics	BZ5450:03 Ecological and Conservation Genetics	EV5502:03 Advanced Geographic Information Systems - TSV 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	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 Information Systems	
			MA5405:03 Data Mining	

[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
[5] Not yet available

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 MARINE BIOLOGY Major - These are our recommended elective subject sets for specific career pathways and/or study interests

TOPIC	STUDY PERIOD
Coral Reefs	
MB5400:03 Life history & evolution of reef corals	1
EV5406:03 Coral Reef Geomorphology	1
MB5160:03 Evolution and Ecology of Reef Fishes	1
MB5190:03 Coral Reef Ecology	2
Taxa specialisations	
MB5160:03 Evolution and Ecology of Reef Fishes	1
MB5400:03 Life History & Evolution of Reef Corals	1
MB5380:03 Invertebrate Biology	2
MB5204:03 Conserving Marine Wildlife: Sea Mammals, Birds and Reptiles	1
Ecology	
MB5160:03 Evolution and Ecology of Reef Fishes	1
AQ5007:03 Aquatic Animal Ecophysiology	2
MB5270:03 Coastal, Estuarine & Mangrove Ecosystems	2
MB5430:03 Behaviour of Marine Animals *Offered in odd-numbered years*	7
Biology	
MB5160:03 Evolution and Ecology of Reef Fishes	1
MB5400:03 Life History & Evolution of Reef Corals	1
MI5003:03 Advanced Marine Microbiology	1
MB5380:03 Invertebrate Biology	2
AQ5007:03 Aquatic Animal Ecophysiology	2
MB5070:03 Marine Biogeography	1
Foundations - *recommended for students with no 2nd or 3rd year undergraduate background in biology / evolutionary ecology.*	
BS5470:03 Evolution	1
MB5380:03 Invertebrate Biology	2
BS5460:03 Fundamentals of Ecology	2
Applied Studies: Fisheries & Aquaculture	
MB5310:03 Marine Reserves as Fisheries Management Tools	3
AQ5006:03 Principles and Practices of Aquaculture	1

MB5003:03 Fisheries Science	1
AQ5015:03 Sustainable Aquaculture	3
MB5610:03 Fishing Gear and Technologies	2
MB5014:03 Managing Tropical Fisheries	11
MB5260:03 Grand Challenges in Fisheries	1
Applications for Conservation	
EV5020:03 Human Dimensions of Nature, Environment and Conservation	1
EV5107:03 International Environmental Policy & Governance	3
BZ5450:03 Ecological & Conservation Genetics	2
EV5003:03 Environmental Economics	2
EV5209:03 Principles and Practices of Protected Area Management	SP3 (TSV) / SP7 Galapagos alternate years
Coastal Resource Management	
EV5406:03 Coral Reef Geomorphology	1
EV5020:03 Human Dimensions of Nature, Environment and Conservation	1
MB5204:03 Conserving Marine Wildlife: Sea Mammals, Birds and Reptiles	1
EV5701:03 Managing Coastal and Marine Environments	1
MB5270:03 Coastal, Estuarine & Mangrove Ecosystems	2
Unique Ecosystems	
SC5810 Marine Ecology and Upwelling	7 (Galapagos)
MB5001:03 Tropical Marine Ecology and Coastal Impacts	11 (Thailand)