DEGREE Master of Science-Professional **MAJOR Aquaculture Science & Technology (AQS)**

RECOMMENDED STUDY PLAN 2021-2022

NAME _____ **STUDENT NUMBER** _____

DEGREE Master of Science-Professional **MAJOR Aquaculture Science & Technology (AQS)**

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 professional practice module in their final semester. The capstone module is either a research project or an industry internship.

Use this document to plan out what subjects you will take and when. Consult with your course advisor about the nature of subjects, research and internship pathways and any queries you may have. The course advisor for each major in the Master of Science programs is listed here. When you are ready to enrol in subjects proceed to your eStudent account.

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.

Aquaculture, Science & Technology major structure

1. Take the following 4 prescribed **Knowledge** subjects:
   - 1.1. AQ5015 Sustainable Aquaculture (SP3)
   - 1.2. AQ5002 Aquaculture: Feeds and Nutrition (SP1)
   - 1.3. AQ5006 Aquaculture: Principles and Practice (SP1)
   - 1.4. AQ5003 Aquaculture: Propagation (SP7)
2. Take 3 **Skills** subjects:
   - 2.1. Take AQ5012 Aquaculture: Hatchery Techniques (SP1), *plus*
   - 2.2. Take 2 Additional Skills subjects from List 1.
     - 2.2.1. Of these, SC5200 Professional Employability (SP1 and SP2) is recommended for all students in their first semester of study & compulsory if you are taking the internship program (SC5009) in item 4 below.
     - 2.2.2. AQ5004 Aquaculture: Stock Improvement (SP10) is also recommended
3. Take 4 **Elective** subjects from List 2
4. Take a 12 credit point Professional Practice option
   - 4.1. Option 1 – Research Project (two parts: take SC5912 & SC5913) ***OR***
   - 4.2. Option 2 – Professional Employability (SC5009 Postgraduate Internship)

Full subject descriptions and timings of all subjects can be found online using the *Subject Search* tool. Use this tool to explore your subject options. Each subject is usually only offered once per year, in the 'study period' stated on Subject Search. It is generally recommended to take 8 subjects per year, with 3 or 4 in each main semester (Study Period 1 and 2), and additional subjects in the block mode (intensive) periods (SP3, SP7, SP10 /11) as necessary. An explanation to JCU's academic calendar can be found here.

Multiple subjects can be taken consecutively in a block mode period as long as the face to face teaching dates do not overlap. These dates are displayed on the Subject Search tool. For example a student can take AQ5015 in SP3 followed by MB5310.

Please note that timings of some subjects occasionally change among years, due to JCU's operational requirements. While such changes are rare, students should check when a subject is being taught using the Subject Search tool above.

For any subject you need to have fulfilled the 'Assumed Knowledge' and / or Pre-requisites 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. Speak with your course advisor for more assistance on this.

Where a subject includes overnight field trips this is noted in the subject's description on *Subject Search*. Additional fees apply to cover trip transport, accommodation and food expenses for these field trips.

List 1. Additional Skill Subjects (Select 2)

SP3 Jan – Feb	**SP1** Feb - June	**SP6 / SP7** June - July	**SP2** July - Nov	**SP9** Sept to Dec **SP10 / 11** Nov - Dec
SC5502:03 Design and Analyses in Ecological Studies [1]	SC5200:03 Professional Employability	BZ5990:03 Toolkit for the Field Biologist *(Terrestrial studies)*	SC5200:03 Professional Employability	AQ5004:03 Aquaculture: Stock Improvement
	SC5202:03 Quantitative Methods in Science	EA5018:03 Field Studies in Tropical Land and Water Science [2]	BZ5450:03 Ecological and Conservation Genetics	EV5502:03 Advanced Geographic Information Systems - TSV
	EV5020:03 Human Dimensions of Nature, Environment and Conservation	EA5330:03 Field Techniques [2]	CH5203:03 Analytical Chemistry (Advanced)	EV5506:03 Remote Sensing - CNS (SP9 start)
		EA5044:03 Geological Mapping [2]	BS5260:03 Modelling Ecological Dynamics	EA5640:03 Advanced Marine Geoscience Technologies and Applications
			EV5505:03 Introduction to Geographic Information Systems	
			MA5405:03 Data Mining	
			BC5203:03 Advanced Bioinformatics	
			EV5110:03 Environmental and Social Impact Assessment	

[1] MB5300 and SC5502 are merged subjects in 2021. Students should have prior understanding of statistics, equivalent to SC5202.

[2] Not intended for students in Marine Biology, Fisheries, Aquaculture or Tropical Biology & Conservation

Professional Practice

Select one of the following options:

Option 1 - Research Project.

- Take SC5912:06 Research Project (Part 1 of 2) & SC5913:06 (Part 2 of 2)

You can take the research project all in your final semester, or spread it over 2 semesters. Enrolment is conditional on attaining a minimum GPA of 5.5 from the preceding coursework units, and having a research project + supervisor confirmed.

Taking this research project is a pathway into a PhD program. More information about PhD pathways can be found here.

Option 2 - Professional Employability

- Take SC5009:12 Postgraduate Internship

This unit is to be taken in your final semester of study. Students must have completed the pre-requisite subject SC5200:03 *Professional Employability.* This pre-requisite unit should be taken in your first semester of study (in Year 1) and is recommended for both research and internship track students.

If you are seeking to gain employment in your field directly after the Master degree, then you should take the Professional Employability option.

Detailed information about the Professional Practice options is provided to students during their first year of study and available on the LearnJCU course page (Organisations & Communities tab).

List 2. 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 they are offered in.

Recommended elective subjects for AQUACULTURE: These are our recommended and most popular units grouped by particular career pathways and/or study interests.

TOPIC	STUDY PERIOD
Aquaculture specialisations:	
AQ5008:03 Aquaculture: System Design	1
AQ5007:03 Aquatic Animal Ecophysiology	2
AQ5009:03 Aquaculture of Tropical Species	2
TV5240:03 Aquatic Pathobiology	2
MI5003:03 Diagnosis of Bacterial Diseases in Aquaculture	1
MI5031:03 Diagnosis of Viral Disease in Aquaculture	9
Marine Science electives	
MB5003:03 Fisheries Science	1
MB5400:03 Life History & Evolution of Reef Corals	1
MB5004:03 Marine Conservation Biology	2
MB5610:03 Fishing Gear& Technologies	2

MB5270:03 Coastal, Estuarine and Mangrove Ecosystems	2
MB5380:03 Invertebrate Biology	2
MB5204:03 Conserving Marine Wildlife: Sea Mammals, Birds and Reptiles	1
MB5260:03 Grand Challenges in Fisheries	1
Environmental Science & Management electives	
CH5041:03 Environmental Chemistry	1
EC5218:03 Economics and Sustainable Resource Management	1
EV5020:03 Human Dimensions of Nature, Environment and Conservation	1
MB5310:03 Marine Reserves as Fisheries Management Tools	3
EV5107:03 International Environmental Policy and Governance	3
MB5014:03 Managing Tropical Fisheries	11

YOUR STUDY PLANNER

Fill in the cells below with your planned subjects. You can re-arrange when you take your skill and elective subjects contingent on when your preferred unit is taught. Aim to complete all your core & skill subjects in your first year of study. You will normally start your program in either SP1 or SP2, but can on request start in SP3 or SP7.

<table>
<tr><td colspan="5">Year 1 Take 8 subjects (24 credit points) with 4 subjects per 6 month Teaching Period</td></tr>
<tr><td colspan="3">TEACHING PERIOD 1 (TP1 Jan – June)</td><td colspan="2">TEACHING PERIOD 2 (TP2 July – December)</td></tr>
<tr><td>SP3
Jan – Feb</td><td>SP1
Feb - June</td><td>SP6 / SP7
June - July</td><td>SP2
July - Nov</td><td>SP9 Sept to Dec
SP10 / 11 Nov - Dec</td></tr>
<tr><td rowspan="4"></td><td>Major core
AQ5002 Aquaculture: Feeds and Nutrition</td><td>Major core
AQ5003 Aquaculture: Propagation</td><td>Skill subject OR Elective</td><td>Skill subject
AQ5004:03 Aquaculture: Stock Improvement recommended</td></tr>
<tr><td>Major core
AQ5006 Aquaculture: Principles and Practice</td><td rowspan="3"></td><td>Elective</td><td></td></tr>
<tr><td>Skill subject
SC5200 Professional Employability [b]
OR
SC5202:03 Quantitative Methods in Science recommended</td><td>Elective</td><td></td></tr>
<tr><td></td><td></td></tr>
</table>

***Notes**:* Pink are core knowledge subjects, Grey are skills subjects, White are electives, Blue are professional practice.

b. SC5200 unit is recommended for all students and should be taken in the first study period of your degree. It is offered in both SP1 and SP2.

<table>
<tr><td colspan="5">Year 2 Take 24 credit points, with 12 credit points in each teaching period</td></tr>
<tr><td colspan="3">TEACHING PERIOD 1 (TP1 Jan – June)</td><td colspan="2">TEACHING PERIOD 2 (TP2 July – December)</td></tr>
<tr><td>SP3
Jan – Feb</td><td>SP1
Feb - June</td><td>SP6 / SP7
June - July</td><td>SP2
July - Nov</td><td>SP9 Sept to Dec
SP10 / 11 Nov - Dec</td></tr>
<tr><td>Major core subject
AQ5015 Sustainable Aquaculture</td><td>Major Core Skill subject
AQ5012:06 Aquaculture: Hatchery Techniques</td><td rowspan="3"></td><td rowspan="3">Professional Practice (12cp)
Pre-requisite conditions apply
• RESEARCH PROJECT (SC5912+SC5913)
OR
• POSTGRADUATE INTERNSHIP (SC5009)
Pre-requisite unit SC5200

This module should be the final subject of your degree.</td><td rowspan="3"></td></tr>
<tr><td rowspan="2"></td><td>Elective</td></tr>
<tr><td></td></tr>
</table>