

## RECOMMENDED STUDY PLAN

2022

DEGREE Bachelor of Advanced Science MAJOR Mathematics (MTM)

NAME \_\_\_\_\_

To assist you with subject information, we recommend you consult with your [CSE Course/Major Advisor](#) and refer to [Subject Search](#). If you would prefer a part-time study plan, please adjust the below planner, reviewing subject prerequisites to ensure you are on track for course completion.

	Study Period 1 - SP1	Study Period 2 - SP2
<b>Year 1</b>	<b>Degree Core:</b> <u>SC1101</u> Science Technology and Truth	<b>Degree Core:</b> <u>SC1109</u> Modelling Natural Systems-Advanced <b>PREREQ:</b> MA1000 OR MA1009
	<b>Degree Core:</b> <u>MA1000</u> Mathematical Foundations <b>PREREQ:</b> MA1020 OR MATHEMATICS B OR MATHS C	<b>Degree Core:</b> <u>MA1003</u> Mathematical Techniques <b>PREREQ:</b> MA1000 OR MA1011 OR MA1009
	<b>Major Core:</b> <u>PH1005</u> Advanced Stream Physics 1 <b>PREREQ:</b> Maths B OR MA1020 OR MA1000 OR MA1008.	<b>Major Core:</b> <u>PH1007</u> Advanced Stream Physics 2 <b>PREREQ:</b> ((MATHS B OR EQUIVALENT OR MA1020) AND PH1005) OR (PHYSICS AND MATHS C)
	Students who have not completed High School Chemistry (or equivalent) must take <b>Degree Core:</b> <u>CH1020</u> Preparatory Chemistry# #This subject is equivalent to chemistry from high school.  <b>OR</b>  <b>Elective - if student has completed high school level Chemistry or equivalent</b> <u>CP1404</u> Programming II - Trimester 3 Recommended <b>PREREQ:</b> CP1401 OR EG1002	
	<b>Trimester 1 (Feb-May)</b>	
	<b>Elective:</b> <u>CP1401</u> Problem Solving and Programming I - Recommended	

	Study Period 1 - SP1	Study Period 2 - SP2
<b>Year 2</b>	<u>SC2209</u> Quantitative Methods in Science-Advanced <b>PREREQ:</b> SC1109 AND MA1003 PLUS 6CP OF OTHER LEVEL 1 SUBJECTS	<b>Major Core:</b> <u>MA2210</u> Linear Algebra <b>PREREQ:</b> MA1003
	<b>Major Core:</b> <u>MA2000</u> Mathematics for Scientists and Engineers <b>PREREQ:</b> MA1003	<b>Elective:</b> <u>MA2405</u> Advanced Statistical Modelling - Recommended <b>PREREQ:</b> MA1401 OR MA2401 OR SC2202/SC2209 AND MA1000
	<b>Major Core:</b> <u>MA2211</u> Discrete Mathematics <b>PREREQ:</b> MATHS B	<b>Elective:</b> Recommended – 2 <sup>nd</sup> year subject from the BSc Skills list 2 (Table below)
	<b>Elective:</b>	<b>Elective:</b>

Year 3	Study Period 1 - SP1	Study Period 2 - SP2
	<b>Degree Option Core:</b> SC3008 Professional Placement PREREQ: COMPLETED 12CP SECOND YEAR SUBJECTS <b>OR</b> SC3003 Science Research Internship PREREQ: 15CP OF AQ, BC, BS, BZ, CH, EV, EA, MA, MB, PH OR SC SCIENCE LEVEL 2 SUBJECTS <i>All available in multiple study periods</i>	
	<b>Degree Core List 1:</b> Advanced Skill Subjects	
	<b>Major Core:</b> <u>MA3211</u> Mathematical Modelling and Differential Equations PREREQ: MA2000 AND (MA2210 OR MA2201)	<b>Major Core:</b> <u>MA3210</u> Probability and Stochastic Processes PREREQ: MA2000 AND (MA2210 OR MA2201)
	<b>Elective:</b>	<b>Major Core:</b> <u>MA3212</u> Optimisation and Operations Research PREREQ: MA2000 AND (MA2210 OR MA2201)
<b>Elective:</b>	<b>Elective:</b> <u>MA3405</u> Statistical Data Mining for Big Data – Recommended PREREQ: MA2405 OR MA2000 OR SC2202/SC2209	

**Further Degree Options:**

<b>Degree Core List 1: Advanced Skill Subjects</b>	
Study Period 1 – SP1	Study Period 2 – SP2
<u>BS5260</u> Modelling Ecological Dynamics	<u>BC5203</u> Advanced Bioinformatics
<u>MA2000</u> Mathematics for Scientists and Engineers	<u>SC5502</u> Design and Analyses in Ecological Studies
<u>EA5409</u> Mineralogy and Geophysics – Not currently offered	<u>CH5002</u> Research Skills and Communication in Chemistry (Adv)
	<u>PH5014</u> Research Skills and Communication in Physics (Advanced) – Not currently offered

<b>BSc Skill-List 2:</b>	
Study Period 1 – SP1	Study Period 2 – SP2
<u>MA2000</u> Mathematics for Scientists and Engineers PREREQ: MA1003	<u>CH2103</u> Analytical Chemistry – TSV only PREREQ: CH1001 OR CH1011
<u>MA2830</u> Data Visualisation	<u>EV2502</u> Introduction to Geographic Information Systems PREREQ: 12CP LEVEL 1 SUBJECTS
<u>SC3010</u> Sensors and Sensing for Scientists PREREQ: SC2202/SC2209	<u>MA2210</u> Linear Algebra PREREQ: MA1003
<b>Trimester 3 (Sept-Dec)</b>	
<u>CP2404</u> Database Modelling	

### **ADDITIONAL COURSE RULES**

A maximum of 30 credit points may be taken at Level 1.

A minimum of 18 credit points of science subjects must be taken at Level 3 or higher.

### **ADDITIONAL COURSE REQUIREMENTS**

Some majors require attendance in intensive or mixed mode attendance subjects on either the Townsville or Cairns campus. If students must attend intensive mode classes at a campus other than the one they are enrolled at, they are responsible for their own expenses.

### **COURSE PROGRESSION REQUISITES**

Must successfully complete 18 credit points of Level 2 science subjects before attempting any Level 5 science subject

### **ADDITIONAL INFORMATION**

[Bachelor of Advanced Science course handbook](#)

[Mathematics major handbook](#)