JAMES COOK UNIVERSITY AUSTRALIA

The information provided is designed to provide helpful information on your study plan. Changes to subject information after this time may affect your study plan. Please refer to the enrolment resources for up to date information.

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
Year 1	**Degree Core:** SC1101 Science Technology and Truth	**Degree Core:** SC1109 Modelling Natural Systems-Advanced **PREREQ: MA1000 OR MA1009**
	Degree Core: MA1000 Mathematical Foundations **PREREQ: MA1020 OR MATHEMATICS B OR MATHS C**	**Degree Core:** MA1003 Mathematical Techniques **PREREQ: MA1000 OR MA1011 OR MA1009**
	Major Core: PH1005 Advanced Stream Physics 1 **PREREQ: Maths B OR MA1020 OR MA1000 OR MA1008.**	**Major Core:** PH1007 Advanced Stream Physics 2 **PREREQ: ((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 **Degree Core:** CH1020 Preparatory Chemistry# *#This subject is equivalent to chemistry from high school.* **OR** **Elective -** *if student has completed high school level Chemistry or equivalent* CP1404 Programming II - *Trimester 3 Recommended* **PREREQ: CP1401 OR EG1002**	

Trimester 1 (Feb-May)
Elective: *CP1401 Problem Solving and Programming I - Recommended*

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

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

Further Degree Options:

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

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