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 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 Option Core** SC1102 Modelling Natural Systems **PREREQ: MA1020** **OR** SC1109 Modelling Natural Systems-Advanced^ **PREREQ: MA1000 OR MA1009**
	Core: Select a subject from Breadth-List 1 *CP1401 Problem Solving and Programming I* ***Trimester 1** - Recommended*	**Core:** Select a subject from Breadth-List 1 CP1404 Programming II ***Trimester 3** - Recommended* **PREREQ: CP1401 OR EG1002**
	Major Core: MA1000 Mathematical Foundations **PREREQ: MA1020 OR MATHEMATICS B OR 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*
		Major Core: MA1003 Mathematical Techniques **PREREQ: MA1000 OR MA1011 OR MA1009**

SP3 (Jan-Feb)
Students who have not completed High School Maths Methods (or equivalent) must take **Degree Core:** MA1020 Preparatory Math* **This subject is equivalent to QLD-Maths Methods from high school.* **OR** **Elective -** *if student has completed high school level Maths Methods or equivalent*

^ Note- SC1109 is compulsory in the Advanced BSc Program and should be taken instead of SC1102 if you are considering that pathway.

TSV students – please speak with your Advisor regarding different options for MA subject pathways.

	Study Period 1 - SP1	Study Period 2 - SP2
Year 2	**Degree Option Core:** SC2202 Quantitative Methods in Science **PREREQ: SC1102 OR MA1020 OR MA1000 OR MATHS B OR EQUIVALENT** **OR** SC2209 Quantitative Methods in Science-Advanced **PREREQ: SC1109 AND MA1003 PLUS 6CP OF OTHER LEVEL 1 SUBJECTS**	**Degree Core Skill-List 2:** *Subjects available across a number of study periods/trimesters, see list for full availabilities.*
	Major Core: MA2000 Mathematics for Scientists and Engineers **PREREQ: MA1003**	**Major Core:** MA2210 Linear Algebra **PREREQ: MA1003**
	Major Core: MA2211 Discrete Mathematics **PREREQ: MATHS B**	Elective *MA2405 Advanced Statistical Modelling - Recommended* ***PREREQ: MA1401 OR MA2401 OR SC2202/SC2209 AND MA1000***
	Elective	Elective

	Study Period 1 - SP1	Study Period 2 - SP2
Year 3	**Degree Option Core:** SC3008 Professional Placement **PREREQ: COMPLETED 12CP SECOND YEAR SUBJECTS AND BE ENROLLED IN THEIR FINAL YEAR OF STUDY** **OR** SC5008 Professional Placement – *Prior approval required* **OR** SC3901 Special Topic 1– *Prior approval required* *All available in multiple study periods*	
	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***
	Elective	

Further Degree Options:

Breadth-List 1:	
Study Period 1 – SP1	**Study Period 2 – SP2**
BM1000 Introductory Biochemistry and Microbiology – *TSV only* **PREREQ: CH1020 OR SENIOR CHEMISTRY**	BS1001 Introduction to Biological Processes
BS1007 Introduction to Biodiversity	CH1002 Chemistry: Principles & Applications – *TSV only* **PREREQ: CH1001 OR CH1011**
CH1001 Chemistry: A Central Science **PREREQ: CH1020 OR EG1010 OR SENIOR CHEMISTRY**	EA1110 Evolution of the Earth
EG1000 Engineering 1	~~MA1003 Mathematical Techniques~~ - *already in major* **PREREQ: MA1000 OR MA1011 OR MA1009**
EV1005 Environmental Processes & Global Change	MA1580 Foundations of Data Science **PREREQ: MA1000 OR MA1020 OR MATHS B**
~~MA1000 Mathematical Foundations~~ - *already in major* **PREREQ: MA1020 OR MATHEMATICS B OR MATHS C**	PH1007 Advanced Stream Physics 2 – *TSV only* **PREREQ: ((MATHS B OR EQUIVALENT OR MA1020) AND PH1005) OR (PHYSICS AND MATHS C)**
PH1005 Advanced Stream Physics 1 **PREREQ: Maths B OR MA1020 OR MA1000 OR MA1008.**	

Trimester 1 (Feb-May)
CP1401 Problem Solving and Programming I

Trimester 3 (Sept-Dec)
CP1404 Programming II **PREREQ: CP1401 OR EG1002**

Skill-List 2:	
Study Period 1 – SP1	**Study Period 2 – SP2**
~~MA2000 Mathematics for Scientists and Engineers~~ - *already in major* **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.

The first year of study may be completed in Cairns. Students must then transfer to Townsville.

COURSE PROGRESSION REQUISITES

Must successfully complete 18 credit points of Level 1 and 2 science subjects before attempting any Level 3 science subject

COURSE INCLUDES MANDATORY PROFESSIONAL PLACEMENT(S)

Yes

ADDITIONAL INFORMATION

Bachelor of Science course handbook
Mathematics major handbook