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 Data Science (DSC)

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**
	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:** MA1580 Foundations of Data Science **PREREQ: MA1000 OR MA1020 OR MATHS B**

Trimester 1 (Feb-May)	Trimester 3 (Sept-Dec)
Elective:CP1401 Problem Solving and Programming I – REQUIRED- *Students in this major must choose this subject to satisfy course requirements*	**Major Core:**CP1404 Programming II – REQUIRED- *Students in this major must choose this subject to satisfy course requirements* **PREREQ: CP1401 OR EG1002**

	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:** MA2405 Advanced Statistical Modelling **PREREQ: MA1401 OR MA2401 OR SC2202/SC2209**
	Major Core List 1: MA2830 Data Visualisation - Recommended	**Major Core:** MA3405 Statistical Data Mining for Big Data **PREREQ: MA2405 OR MA2000 OR SC2202/SC2209**
	Elective:	**Elective:** *Recommended – 2nd year subject from the BSc Skills list 2 (Table below)*
	Elective:	

Trimester 3 (Sept-Dec)
Major Core List 1: CP2404 Database Modelling - Recommended

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: MA3831 Natural Language Processing, Web Scraping and Large Data Processing **PREREQ: CP1404 AND MA3405**	**Major Option Core:** MA3832 Neural Network & Deep Learning-*Recommended* **PREREQ: MA3405 AND CP1404** **OR** MA3212 Optimisation and Operations Research - *TSV only* **PREREQ: MA2000 AND (MA2210 OR MA2201**
	Elective:	**Elective:**
	Elective:	**Elective:**

Further Degree Options:

Major Core List 1:	
Study Period 1 – SP1	**Study Period 2 – SP2**
MA2211 Discrete Mathematics- *TSV only* **PREREQ: MATHS B**	MA2210 Linear Algebra **PREREQ: MA1003**
MA2830 Data Visualisation	

Trimester 3 (Sept-Dec)
CP2404 Database Modelling

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.

Students must select CP1401 as one of their undergraduate subject electives.
This major is only possible as a second major if students have satisfied CH1020 subject material prior to commencing this course.

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
Data Science major handbook