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 Data Science (DSC)

NAME _____ MAJOR Choose a second major

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**
	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 -** CP1401 Problem Solving and Programming I – offered in Trimester 1– *Students in this major must complete this subject*	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 -** CP1404 Programming II - offered in Trimester 3– *Students in this major must complete this subject* **PREREQ: CP1401 OR EG1002**
	Major Core: MA1000 Mathematical Foundations **PREREQ: MA1020 OR MATHEMATICS B OR MATHS C**	**Major Core:** MA1580 Foundations of Data Science **PREREQ: MA1000 OR MA1020 OR MATHS B**
	Major Core:	**Major Core:**

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

	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 List 1: MA2830 Data Visualisation - Recommended	**Major Core:** MA2405 Advanced Statistical Modelling **PREREQ: MA1401 OR MA2401 OR SC2202/SC2209**
	Elective	**Major Core:** MA3405 Statistical Data Mining for Big Data **PREREQ: MA2405 OR MA2000 OR SC2202/SC2209**
	Major Core:	

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

	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: 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**
	Major Core:	**Major Core:**
	Major Core:	**Major Core:**
	Major Core:	

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

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 studying this major as a second major must, prior to commencing this course, either i. have satisfied both MA1020 and CH1020 subject material in order to undertake this major in conjunction with the Physics major, or ii. have satisfied either MA1020 or CH1020 subject material for other major combinations. Students must select CP1401 and CP1404 as undergraduate elective subjects

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
Data Science major handbook