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

Mid-Year Entry 2021

DEGREE Bachelor of 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.

The College of Science and Engineering has implemented screening testing in this degree so that students who are suitably qualified can replace core preparatory subjects with elective subjects. The screening tests **must** be completed even if Senior Chemistry or Maths Methods (or equivalent) have been studied at secondary school.

		Study Period 2 - SP2
Year 1	*MID-YEAR ENTRY*	**Degree Core:** CH1020 Preparatory Chemistry # *# This core subject may be replaced by an elective if you pass the chemistry screening test (held during orientation week). The screening test needs to be completed even if Senior Chemistry (or equivalent) has been studied at secondary school.*
		Degree Opt Core Breadth-List 1: CP1401 Problem Solving and Programming I-*Required*
		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**

	Study Period 1 - SP1	Study Period 2 - SP2
Year 2	**Degree Core:** SC1101 Science Technology and Truth	**Degree Opt Core** SC1109 Modelling Natural Systems-Adv^-*Recommended* **PREREQ: MA1000 OR MA1009** **OR** SC1102 Modelling Natural Systems **PREREQ: MA1020**
	Degree Core: SC2202 Quantitative Methods in Science **PREREQ: SC1102 OR MA1020 OR MATHS B OR EQUIVALENT** **OR** SC2209 Quantitative Methods in Science-Advanced-*Recommended for this Major*! **PREREQ: SC1109 AND MA1003 PLUS 6CP OF OTHER LEVEL 1 SUBJECTS**	**Major Core:** MA2405 Advanced Statistical Modelling **PREREQ: MA1401 OR MA2401 OR SC2202/SC2209**
	Degree Opt Core Breadth-List 1: CP1404 Programming II - *Required* **PREREQ: CP1801 OR CP1401 OR CP1200 OR EG1002 OR CP2200 OR SC1201**	**Major Core:** MA3405 Statistical Data Mining for Big Data **PREREQ: MA2405 OR MA2000 OR SC2202/SC2209**
	Elective/Minor/2nd Major: *This would be the Degree Core - MA1020 Preparatory Math but the assumption is the student has passed the screening test and passed relevant Maths at secondary school.*	**Elective/Minor/2nd Major:** *MA1003 Mathematical Techniques – Recommended* ***PREREQ: MA1000 OR MA1011 OR MA1009***

^ 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 3	**Degree Core:** SC3010 Sensors and Sensing for Scientists **PREREQ: SC2202/SC2209**	**Degree Opt Core Skill-List 2** *MA2210 Linear Algebra - Recommended* ***PREREQ: MA1003***
	Major Core List 1: CP2404 Database Modelling	**Major 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 List 1: MA2830 Data Visualisation	**Elective/Minor/2nd Major:** *CP3404 Information Security – Recommended* ***PREREQ: 6CP OF CP SUBJECTS AND 12CP OF SUBJECTS***
	Major Core: MA3831 Natural Language Processing, Web Scraping and Large Data Processing **PREREQ: CP1404**	**Elective/Minor/2nd Major:**

	Study Period 1 - SP1	Study Period 2 - SP2
Year 4	**Degree Core:** SC3008 Professional Placement - *available any SP*	*MID-YEAR COMPLETION*
	Elective/Minor/2nd Major:	
	Elective/Minor/2nd Major:	
	Elective/Minor/2nd Major:	

Further Degree Options:

Major Core List 1:	
Study Period 1 – SP1	**Study Period 2 – SP2**
CP2404 Database Modelling	MA2211 Discrete Mathematics **PREREQ: MATHS B**
MA2830 Data Visualisation	MA2210 Linear Algebra **PREREQ: MA1003**

Skill-List 2:	
Study Period 1 – SP1	**Study Period 2 – SP2**
	EV2502 Introduction to Geographic Information Systems **PREREQ: 12CP LEVEL 1 SUBJECTS**
	CH2103 Analytical Chemistry – *TSV only* **PREREQ: CH1001 OR CH1011**
	MA2210 Linear Algebra **PREREQ: MA1003**

Breadth-List 1:	
Study Period 1 – SP1	**Study Period 2 – SP2**
CP1401 Problem Solving and Programming I **OR** CP1404 Programming II **PREREQ: CP1801 OR CP1401 OR CP1200 OR EG1002 OR CP2200 OR SC1201** *both subjects available in SP1 and SP2 *****	
BM1000 Introductory Biochemistry and Microbiology – *TSV only* **PREREQ: CH1020 OR SENIOR CHEMISTRY**	BS1001 Introduction to Biological Processes
BS1007 Introduction to Biodiversity – *TSV only* **OR** BZ1006 Diversity of Life – *CNS only*	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 **PREREQ: MA1000 OR MA1011 OR MA1009**
EV1005 Environmental Processes & Global Change	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.**	

***CP1404 has been added to the structure from 2019. We would prefer if you would take CP1404.*