

## RECOMMENDED STUDY PLAN

2022

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.

		Study Period 1 - SP1	Study Period 2 - SP2
<b>Year 1</b>		<b>Degree Core:</b> <u>SC1101</u> Science Technology and Truth	<b>Degree Option Core</b> <u>SC1102</u> Modelling Natural Systems PREREQ: MA1020 <b>OR</b> <u>SC1109</u> Modelling Natural Systems-Advanced^ PREREQ: MA1000 OR MA1009
		Students who have not completed High School Maths Methods (or equivalent) must take <b>Degree Core:</b> <u>MA1020</u> Preparatory Math* *This subject is equivalent to QLD-Maths Methods from high school.  <b>OR</b> <b>Elective - if student has completed high school level Maths Methods or equivalent</b>	Students who have not completed High School Chemistry (or equivalent) must take <b>Degree Core:</b> <u>CH1020</u> Preparatory Chemistry# #This subject is equivalent to chemistry from high school.  <b>OR</b> <b>Elective - if student has completed high school level Chemistry or equivalent</b>
		<b>Major Core:</b> <u>MA1000</u> Mathematical Foundations PREREQ: MA1020 OR MATHEMATICS B OR MATHS C	<b>Major Core:</b> <u>MA1580</u> Foundations of Data Science PREREQ: MA1000 OR MA1020 OR MATHS B
	<b>Trimester 1</b> (Feb-May)		<b>Trimester 3</b> (Sept-Dec)
	<b>Core:</b> <u>CP1401</u> Problem Solving and Programming I – Students in this major must choose this subject from the <u>Breadth-List 1</u>		<b>Core:</b> <u>CP1404</u> Programming II - Students in this major must choose this subject from the <u>Breadth-List 1</u> PREREQ: CP1401 OR EG1002

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

Year 2	Study Period 1 - SP1	Study Period 2 - SP2	
	<b>Degree Option Core:</b> <u>SC2202</u> Quantitative Methods in Science PREREQ: SC1102 OR MA1020 OR MA1000 OR MATHS B OR EQUIVALENT <b>OR</b> <u>SC2209</u> Quantitative Methods in Science-Advanced PREREQ: SC1109 AND MA1003 PLUS 6CP OF OTHER LEVEL 1 SUBJECTS	<b>Degree Core Skill-List 2:</b> <i>Subjects available across a number of study periods/trimesters, see list for full availabilities.</i>	
	<b>Major Core List 1:</b> <u>MA2830</u> Data Visualisation - Recommended	<b>Major Core:</b> <u>MA2405</u> Advanced Statistical Modelling PREREQ: MA1401 OR MA2401 OR SC2202/SC2209	
	Elective	<b>Major Core:</b> <u>MA3405</u> Statistical Data Mining for Big Data PREREQ: MA2405 OR MA2000 OR SC2202/SC2209	
	Elective		

Trimester 3 (Sept-Dec)
<b>Major Core List 1:</b> <u>CP2404</u> Database Modelling - Recommended

Year 3	Study Period 1 - SP1	Study Period 2 - SP2	
	<b>Degree Option Core:</b> <u>SC3008</u> Professional Placement PREREQ: COMPLETED 12CP SECOND YEAR SUBJECTS AND BE ENROLLED IN THEIR FINAL YEAR OF STUDY <b>OR</b> <u>SC5008</u> Professional Placement – <i>Prior approval required</i> <b>OR</b> <u>SC3901</u> Special Topic 1– <i>Prior approval required</i> <i>All available in multiple study periods</i>		
	<b>Major Core:</b> <u>MA3831</u> Natural Language Processing, Web Scraping and Large Data Processing PREREQ: CP1404 AND MA3405	<b>Major Option Core:</b> <u>MA3832</u> Neural Network & Deep Learning-Recommended PREREQ: MA3405 AND CP1404 <b>OR</b> <u>MA3212</u> Optimisation and Operations Research - TSV only PREREQ: MA2000 AND (MA2210 OR MA2201)	
	Elective	Elective - <u>CP3404</u> Information Security – Recommended PREREQ: CP2414 OR 6CP OF CP SUBJECTS AND 12CP OF SUBJECTS	
	Elective	Elective	

**Further Degree Options:**

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

Trimester 3 (Sept-Dec)
<u>CP2404</u> Database Modelling

<b>Breadth-List 1:</b>	
<b>Study Period 1 – SP1</b>	<b>Study Period 2 – SP2</b>
<u>BM1000</u> Introductory Biochemistry and Microbiology – <i>TSV only</i> PREREQ: CH1020 OR SENIOR CHEMISTRY	<u>BS1001</u> Introduction to Biological Processes
<u>BS1007</u> Introduction to Biodiversity	<u>CH1002</u> Chemistry: Principles & Applications – <i>TSV only</i> PREREQ: CH1001 OR CH1011
<u>CH1001</u> Chemistry: A Central Science PREREQ: CH1020 OR EG1010 OR SENIOR CHEMISTRY	<u>EA1110</u> Evolution of the Earth
<u>EG1000</u> Engineering 1	<u>MA1003</u> Mathematical Techniques PREREQ: MA1000 OR MA1011 OR MA1009
<u>EV1005</u> Environmental Processes & Global Change	<del>MA1580 Foundations of Data Science- already in major</del> PREREQ: MA1000 OR MA1020 OR MATHS B
<del>MA1000 Mathematical Foundations- already in major</del> PREREQ: MA1020 OR MATHEMATICS B OR MATHS C	<u>PH1007</u> Advanced Stream Physics 2 – <i>TSV only</i> PREREQ: ((MATHS B OR EQUIVALENT OR MA1020) AND PH1005) OR (PHYSICS AND MATHS C)
<u>PH1005</u> Advanced Stream Physics 1 PREREQ: Maths B OR MA1020 OR MA1000 OR MA1008.	
<b>Trimester 1</b> (Feb-May)	<b>Trimester 3</b> (Sept-Dec)
<u>CP1401</u> Problem Solving and Programming I	<u>CP1404</u> Programming II PREREQ: CP1401 OR EG1002

<b>Skill-List 2:</b>	
<b>Study Period 1 – SP1</b>	<b>Study Period 2 – SP2</b>
<u>MA2000</u> Mathematics for Scientists and Engineers PREREQ: MA1003	<u>CH2103</u> Analytical Chemistry – <i>TSV only</i> PREREQ: CH1001 OR CH1011
<u>MA2830</u> Data Visualisation	<u>EV2502</u> Introduction to Geographic Information Systems PREREQ: 12CP LEVEL 1 SUBJECTS
<u>SC3010</u> Sensors and Sensing for Scientists PREREQ: SC2202/SC2209	<u>MA2210</u> Linear Algebra PREREQ: MA1003
	<b>Trimester 3</b> (Sept-Dec)
	<u>CP2404</u> 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 as a single major must select CP1401 and CP1404 as List 1 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](#)