Bachelor of Advanced Science MAJOR Data Science

This study plan should be used as a general guide for your course. We recommend you consult with your CSE Course/Major Advisor and particularly if your intended enrolment varies from this plan.

The information in the study plan is current at the time of creation and may be subject to future change. If you would prefer a part-time study plan, please adjust the below study planner; reviewing subject prerequisites to ensure you are on track for course completion.

Useful study planning/enrolment resources:

To search for information on subjects: Subject Search
To register for your classes: Class Registration
For important dates check: Academic Calendars
Further enrolment resources: Enrolment Resources

	STUDY PERIOD 1	STUDY PERIOD 2
Year 1	Course **SC1101**:03 Science Technology and Truth	Course **SC1109**:03 Modelling Natural Systems-Advanced *PREREQ: MA1000 or MA1009*
	Course **MA1000**:03 Mathematical Foundations *PREREQ: MA1020 or MA0020 or Maths B or Maths C*	Course **MA1003**:03 Mathematical Techniques *PREREQ: MA1000 or MA1011 or MA1009*
	Course **CH1020**:03 Preparatory Chemistry or **Elective** (only if already satisfied via previous study)	Major **MA1580**:03 Foundations of Data Science *PREREQ: MA1000 or MA1020 or MA0020 or Maths B*

TRIMESTER 1	TRIMESTER 2	TRIMESTER 3
^Elective **CP1401**:03 Problem Solving and Programming I		Major **^CP1404**:03 Programming II in TR3 *PREREQ: CP1401*

^ Students must select CP1401 in Trimester 1 2023 as their elective subject in order to study CP1404 in Trimester 3 2023.

	STUDY PERIOD 1	STUDY PERIOD 2
Year 2	Course **SC2209**:03 Quantitative Methods in Science-Advanced *PREREQ: MA1003 and SC1109 plus 6 credit points of Level 1 subjects*	Major **MA2405**:03 Advanced Statistical Modelling *PREREQ: SC2209 and MA1000*
	Major Select 3 credit points of subjects from **List 1 (Data Science Major)**	Major **MA3405**:03 Statistical Data Mining for Big Data *PREREQ: MA2405 or MA2000 or SC2209*
	Elective	Major Select 3 credit points of subjects from **List 1 (Data Science Major)**
	Elective	**Elective** *RECOMMENDED: BSc SKILL SUBJECT- List 2 (table below)*

	STUDY PERIOD 1	STUDY PERIOD 2
Year 3	Course Select Availability in Study Period 1, 2, 3, 7 or 11 **SC3003**:03 Science Research Internship *PREREQ: 15 credit points of AQ, BC, BS, BZ, CH, EV, EA, MA, MB, PH or SC Level 2 subjects* OR **SC3008**:03 Professional Placement *PREREQ: Students must have successfully completed 12 credit points of second year subjects.* *Enrolment is restricted to students with an approved placement*	
	Course Select an ADVANCED SKILL subject from **List 1**	
	Major **MA3831**:03 Natural Language Processing, Web Scraping and Large Data Processing *PREREQ: CP1404 and MA3405*	Major **MA3832**:03 Neural Network and Deep Learning *PREREQ: MA3405 and CP1404* OR **MA3212**:03 Optimisation and Operations Research *PREREQ: MA2000 and (MA2210 or MA2201)*
	Elective	**Elective**
	Elective	**Elective**

DATA SCIENCE MAJOR - LIST 1		
STUDY PERIOD 1	**STUDY PERIOD 2**	
MA2830:03 Data Visualisation	MA2210:03 Linear Algebra *PREREQ: MA1003*	
TRIMESTER 1	**TRIMESTER 2**	**TRIMESTER 3**
MA2211:03 Discrete Mathematics *PREREQ: Maths B or MA1020 or MA0020*		CP2404:03 Database Modelling *PREREQ: MA1003*

ADVANCED SKILL SUBJECTS - LIST 1	
STUDY PERIOD 1	**STUDY PERIOD 2**
BS5260:03 Modelling Ecological Dynamics	BC5203:03 Advanced Bioinformatics
MA2000:03 Mathematics for Scientists and Engineers *PREREQ: MA1003*	CH5002:03 Research Skills and Communication in Chemistry (Advanced) *PREREQ: Satisfactory completion of 9 credit points of Level 2, 3 or 5 CH subjects*
^EA5409:03 Mineralogy and Geophysics	SC5502:03 Design and Analyses in Ecological Studies
^PH5014:03 Research Skills and Communication in Physics (Advanced)	

^Note: EA5409 and PH5014 are not offered in 2023

BSc SKILL SUBJECTS - LIST 2	
STUDY PERIOD 1	**STUDY PERIOD 2**
MA2000:03 Mathematics for Scientists and Engineers *PREREQ: MA1003*	CH2103:03 Analytical Chemistry *PREREQ: CH1001 OR CH1011*
MA2830 Data Visualisation	EV2502:03 Introduction to Geographic Information Systems *PREREQ: At least 12 credit points of Level 1 subjects*
SC3010:03 Sensors and Sensing for Scientists *PREREQ: BZ2001 or SC2202 or SC2209 or SC2201*	MA2210:03 Linear Algebra *PREREQ: MA1003*

TRIMESTER 3
CP2404:03 Database Modelling

COURSE NOTES

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.

Students must select CP1401 as one of their undergraduate subject electives.

ADDITIONAL INFORMATION

2023 Bachelor of Advanced Science Handbook
Data Science Major