Bachelor of 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
Course **SC1101**:03 Science Technology and Truth	Course **SC1102**:03 Modelling Natural Systems *PREREQ: MA1020 or MA0020 or Senior Mathematics or equivalent* or **SC1109**:03 Modelling Natural Systems-Advanced ^ *PREREQ: MA1000 or MA1009*
Course **MA1020**:03 Preparatory Mathematics - **SP3** or **Elective** (only if already satisfied via previous study)	Course **CH1020**:03 Preparatory Chemistry or **Elective** (only if already satisfied via previous study)
Major **MA1000**:03 Mathematical Foundations *PREREQ: MA1020 or MA0020 or Maths B or Maths C*	Major **MA1580**:03 Foundations of Data Science *PREREQ: MA1000 or MA1020 or MA0020 or Maths B*

TRIMESTER 1	TRIMESTER 2	TRIMESTER 3
Elective Select a subject from **List 1 (Breadth Subjects)** *Students studying this as a single major must select CP1401*		**Elective** Select a subject from **List 1 (Breadth Subjects)** *Students studying this as a single major must select CP1404 PREREQ: CP1401*

*Students studying this as a single major must select CP1401 and CP1404 as List 1 subjects.
^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	STUDY PERIOD 2
Year 2	Course **SC2202**:03 Quantitative Methods in Science *PREREQ: SC1102 or SC1109* or **SC2209**:03 Quantitative Methods in Science-Advanced *PREREQ: SC1109 and MA1003 plus 6 credit points of other Level 1 subjects*	Major **MA2405**:03 Advanced Statistical Modelling *PREREQ: MA1401 or BZ2001 or MA2401 or SC2202 or SC2209 and MA1000*
	Course Select a subject from **List 2 (Skills Subjects)**	Major **MA3405**:03 Statistical Data Mining for Big Data *PREREQ: MA2405 or MA2000 or SC2202 or SC2209*
	Major Select 3 credit points from **Major List 1** *MA2830 Data Visualisation - Recommended*	Major Select 3 credit points from **Major List 1** *CP2404 Database Modelling – Recommended (TR3)*
	Elective	**Elective**

	STUDY PERIOD 1	STUDY PERIOD 2
Year 3	Course **SC3008**:03 Professional Placement Select Availability in Study Period 1, 2, 3, 7 or 11 *PREREQ: Students must have successfully completed 12 credit points of second year.* *Enrolment is restricted to students with an approved placement*	
	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 or MA5405 and CP1404* *OR* **MA3212:03** Optimisation and Operations Research *PREREQ: MA2000 and (MA2210 or MA2201)*
	Elective	**Elective**
	Elective	**Elective**
	Elective	

BREADTH SUBJECTS - LIST 1

STUDY PERIOD 1	STUDY PERIOD 2
BM1000:03 Introductory Biochemistry and Microbiology *PREREQ: Allow concurrent enrolment in CH1020, CH0020 or Senior Chemistry*	BS1001:03 Introduction to Biological Processes
BS1007:03 Introduction to Biodiversity	CH1002:03 Chemistry: Principles and Applications *PREREQ: CH1001 OR CH1011 and allow concurrent for Ch1011 and CH1001*
CH1001:03 Chemistry: A Central Science *PREREQ: CH1020, CH0020 or EG1010 or High School Senior Chemistry*	EA1110:03 Evolution of the Earth
EG1000:03 Engineering 1	MA1003:03 Mathematical Techniques *PREREQ: MA1000 or MA1011 or MA1009*
EV1005:03 Environmental Processes and Global Change	~~MA1580:03 Foundations of Data Science~~ ~~*PREREQ: MA1000 or MA1020 or MA0020 or Maths B*~~
~~MA1000:03 Mathematical Foundation~~ ~~*PREREQ: MA1020 or MA0020 or Maths B or Maths C*~~	PH1007:03 Advanced Stream Physics 2 *PREREQ: ((Maths B or equivalent or MA1020 or MA0020) and PH1005) or (Physics and Maths C)*
PH1005:03 Advanced Stream Physics 1 *PREREQ: MA1000*	

TRIMESTER 1	TRIMESTER 2	TRIMESTER 3
CP1401:03 Problem Solving and Programming I	CP1401:03 Problem Solving and Programming I *External*	CP1404:03 Programming II *PREREQ: CP1801 or CP1401 or CP1200 or EG1002 or CP2200 or SC1201*
	CP1404:03 Programming II *External*	

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*
MA2830:03 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

MAJOR - LIST 1	
STUDY PERIOD 1	**STUDY PERIOD 2**
MA2830:03 Data Visualisation	MA2210:03 Linear Algebra *PREREQ: MA1003*
MA2211:03 Discrete Mathematics *PREREQ: Maths B or MA1020 or MA0020*	

TRIMESTER 3
CP2404:03 Database Modelling

ADDITIONAL INFORMATION

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.

COURSE HANDBOOK

Bachelor of Science Handbook
Bachelor of Data Science Major