Bachelor of Science

Bioinformatics
Data Science

2027 ENTRY

Useful study planning / Enrolment resources

Course and Subject Handbook	Academic Calendars	Class Registration	Enrolment Resources

Attention International Student visa holders: To remain compliant with enrolment requirements as a Student visa holder, you are required to enrol in at least one On-Campus, Multi-Modal or WIL subject offering in each compulsory study period and you cannot enrol in more than one third (33%) of your total course load through online or distance learning. To complete your course within your CoE duration, maintain sufficient subject enrolment. If only Online subject offerings are available in a compulsory study period, contact enrolments@jcu.edu.au urgently for enrolment advice.

Student Resources: If you require advice about your study plan, choosing electives, or which subjects to enrol in, please contact your major advisor or degree coordinator (CSE Course and Major Advisors). For information on available elective subject options please also refer to the Study Area guide (JCU STUDY AREA GUIDE — College of Science & Engineering).

INTENSIVE: Subjects labelled with *Intensive involve mandatory on-campus or fieldwork attendance with extended hours over a dedicated face-to-face period. Please check the face-to-face dates for the subject in the subject handbook and do not enrol in subjects with overlapping face-to-face dates. For more information, see the CSE Student Guide to Succeeding in Trimester 2 Intensives on the CSE Student Resources webpage.

***Senior Chemistry (or equivalent) and Senior Mathematical Methods (or equivalent) is required to undertake Data Science major.**

How to read this planner

PREREQ Prerequisite information **ONLINE** Online offering **PLACEMENT** Placement requirement **INTENSIVE** Intensive on-campus requirement

2027

TRIMESTER 1	TRIMESTER 2	TRIMESTER 3
SC1101:03 Science, Technology and Truth	CH1020:03 Preparatory Chemistry (or any Level 1, 2, 3 or 5 subject if already satisfied via previous study)	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 *SC1109 is compulsory in the Advanced BSc Program and should be taken instead of SC1102 if you are considering that pathway.
Bioinformatics Major CP1401:03 Problem Solving and Programming I	MA1020:03 Preparatory Mathematics (or any Level 1, 2, 3 or 5 subject if already satisfied via previous study) *Recommended MA1003 Mathematical Techniques (Offered TR2 or TR3)	**Bioinformatics Major** BS1001:03 Introduction to Biological Processes
Data Science Major MA1000:03 Mathematical Foundations **PREREQ:** MA1020 or MA0020 or BR0202 or High school subjects: Mathematical Methods or Specialist Mathematics (or equivalent such as Maths B or Maths C)		**Data Science Major** MA1580:03 Foundations of Data Science

2028

TRIMESTER 1	TRIMESTER 2	TRIMESTER 3
SC2202:03 Quantitative Methods in Science **PREREQ:** SC1102 OR SC1109 or admission to Bachelor of Business and Environmental Science or admission to 116209, 116309 or 116409 **OR** SC2209:03 Quantitative Methods in Science-Advanced **PREREQ:** MA1003 and ((SC1109 plus 6 credit points of other Level 1 subjects) or admission in 116409)	**Bioinformatics Major** BM2230:03 DNA to Proteins **PREREQ:** Minimum 18 credit points of Level 1 subjects including BM1110 or BM1300 or BM1000 or BS1001	**Bioinformatics Major** BM2331:03 Bioinformatics I: Decoding DNA **PREREQ:** BM1110 or BS1001 **ONLINE**
Bioinformatics Major BS2470:03 Evolution **PREREQ:** BZ1001 OR BS1001 OR BZ1005 **OR** BM2330:03 Cell Biology: Signaling & Regulation (Offered TR3) **PREREQ:** Minimum 18 credit points Level 1 subjects including BM1110 or BM1000 or BS1001	**Data Science Major** Select 3 credit points of subjects from **List 1**	**Bioinformatics Major** MA3405:03 Statistical Data Mining for Big Data **PREREQ:** MA2405 or MA2000 or SC2202 or SC2209
Select 3 credit points of subjects from List 2 **(Skills Subjects)**		Select 3 credit points of any Level 1, 2, 3 or 5 subjects *Students studying Data Science Major must select CP1404:03 Programming II **PREREQ:** CP1401 **ONLINE**

2029

TRIMESTER 1	TRIMESTER 2	TRIMESTER 3
Bioinformatics Major BM3130:03 Genes, Genomes and Development **PREREQ:** BM2230 **OR** BZ3450:03 Ecological and Conservation Genetics (Offered TR2) **PREREQ:** BS2470 **INTENSIVE:** 2 week face-to-face fieldwork component	**Data Science Major** MA3212:03 Optimisation and Operations Research **PREREQ:** MA2000 **OR** MA3832:03 Neural Network and Deep Learning **PREREQ:** MA3405 or MA5405 and CP1404	SC3008:03 Professional Placement (Offered TR1, TR2, TR3) **PREREQ:** Students must have successfully completed 12 second year credit points **PLACEMENT** 100 hours **OR** SC3003:03 Science Research Internship (Offered TR1, TR2, TR3) **PREREQ:** 15 credit points of Science Level 2 subjects plus a GPA of 5.5 or above. *Students must source a supervisor for their internship before enrolment **PLACEMENT** 100 hours
Data Science Major MA3831:03 Natural Language Processing, Web Scraping and Large Data Processing **PREREQ:** CP1404 and MA3405	**Data Science Major** Select 3 credit points of subjects from **List 1**	**Bioinformatics Major** BM3331:03 Bioinformatics II: Mastering Big Genomic Data **PREREQ:** BM2331 and SC2202 or SC2209 or MA2405 or BZ2001 or (BC3101 and HS2402)
Data Science Major Select 3 credit points of any Level 1, 2, 3 or 5 subject *MA2000 recommended to enable selection of alternate core MA3212		**Data Science Major** MA2405:03 Advanced Statistical Modelling **PREREQ:** MA1401 or BZ2001 or MA2401 or SC2202 or SC2209 and MA1000

Course Handbook

Bachelor of Science	Bioinformatics Data Science

Tip: Use this planner with the Course and Subject Handbook each enrolment period to confirm availability, prerequisites and campus/mode requirements.

Course Notes

Note: Students studying this major combination must select CP1404 within their course in order to satisfy prerequisites. Please refer to the course structure for details.

Award Title	Bachelor of Science
Abbreviation	BSc
Credit Points	72
AQF Level	Level 7 - Bachelor Degree
Location	Townsville Bebegu Yumba, Cairns Nguma-bada
Division	Academy
College	College of Science and Engineering
Expected Time to Complete	3 Years
Maximum Time to Complete	9 Years
Maximum Leave of Absence	3 Years
CRICOS Code	076290A, OS