



## Bachelor of Science (Domestic students)

| Program code   | Entry requirements   | Prerequisites   |
|--|--|---|
| 1634   | 63.00  | NIL   |
| <b>Available at</b><br>Gold Coast Campus, Nathan Campus  | ATAR/RANK 2024<br>( <a href="#">more</a> )                       | <b>Assumed knowledge</b><br>Any General or Applied English subject (Units 3&4, C) |
| <b>Duration</b><br>3 years full-time<br>6 years part-time  | <b>Commencing in</b><br>Trimester 1, Trimester 2 and Trimester 3 | General Mathematics or Mathematical Methods (Units 3&4, C)                        |
| <b>Credit points</b><br>240  |  |   |
| <b>Indicative fee</b><br>\$8,500.00* per year ( <a href="#">more</a> )<br>* 2024 indicative annual CSP fee |  |   |

### Degree requirements: Students who started Trimester 2 - 2024

For Domestic and those International students not required to complete the English Language Enhancement course

For the award of *Bachelor of Science (BSc)*, you must successfully complete 240 credit points, made up of the core courses AND

- 60 credit points for a major and 80 credit points of free-choice electives **OR**
- 60 credit points for a major, 60 credit points for a second major and 20 credit points of free-choice electives **OR**
- 70 credit points for the Physics major and 70 credit points of free-choice electives **OR**
- 70 credit points for the Physics major and 60 credit points for the Applied Mathematics major and 10 credit points free-choice elective.

#### Other program requirements

You must successfully complete:

- no more than 100 credit points of Level 1 courses (the first digit of a course code denotes the level);
- at least 60 credit points of Level 3 courses or higher.

This degree may be awarded **with Distinction** where a student achieves a minimum program GPA of 6.5 with no failed courses. The words "This award was achieved with Distinction" will be recorded on the testamur.

#### Australian Qualifications Framework (AQF) Level and Type

The **Australian Qualifications Framework (AQF)** is the national policy for regulated qualifications in Australian education and training. This qualification is accredited as an AQF Level 7 - Bachelor Degree.

#### English Language Enhancement

Domestic students enrolled in this program whose first language is not English may complete the following **English Language Enhancement Course** as an elective.

- [5903LHS Language and Communication for Sciences](#)

Students whose first language is English are not permitted to undertake this course.

### Program learning outcomes

#### Program learning outcomes

**Program Learning Outcomes** communicate to the community the value of the Griffith educational experience as benchmarked against national qualification standards.

Program Learning Outcomes for this award describe the knowledge, skills and the application of knowledge and skills you will acquire through studying the Griffith program of your choice.

### Course list: Students starting Trimester 2 - 2024

Course offering information in program structures is a guide only. Please check the actual offering information in the Course Catalogue.

Students must check the prerequisite and incompatible requirements before selecting any course within this program.

#### English Language Enhancement course

Students required to undertake the English Language Enhancement course must complete 5903LHS in their first trimester of study.

The English Language Enhancement course is to be taken in place of a Free-choice elective in your program.

| Trimester    | Course code | Requirement         | Course title                            | CP |
|--------------|-------------|---------------------|---|----|
| Tri 1,2 or 3 | 5903LHS     | English Enhancement | Language and Communication for Sciences | 10 |

#### Year 1

You must select **80 credit points** from the following Level 1 courses:

| Trimester | Course code | Requirement     | Course title  | CP |
|-----------|-------------|-----------------|---|----|
| Tri 1     | 1001NSC     | Listed Elective | Human Biology: from Cells to Systems (Clinical Science major)   | 10 |
| Tri 1     | 1007ENV     | Listed Elective | Introduction to Marine Science (Marine Biology major)   | 10 |
| Tri 2     | 1014NSC     | Listed Elective | Fundamentals of Biochemistry (Clinical Sciences major / Microbiology major/Biochemistry and Molecular Biology major Nathan only)  | 10 |
| Tri 1,3   | 1041SCG     | Listed Elective | Biological Systems (Biochemistry and Molecular Biology major / Clinical Science major / Geography major / Marine Biology major / Microbiology major / Wildlife Biology major)   | 10 |
| Tri 1,3   | 1023SCG     | Listed Elective | Chemistry I (Biochemistry and Molecular Biology major / Chemistry major / Geography major / Marine Biology major / Wildlife Biology major) (Gold Coast)   | 10 |
|           |             |                 | <b>OR</b>   |    |
| Tri 1,3   | 1021SCG     | Listed Elective | Chemistry 1A (Biochemistry and Molecular Biology major/Chemistry major/Geography major/Marine Biology major/Wildlife Biology major/Clinical Sciences major / Microbiology major) (Nathan)                                 | 10 |
| Tri 1,3   | 1201SCG     | Listed Elective | Linear Algebra (Applied Mathematics major/ Physics major)   | 10 |
| Tri 2     | 1042SCG     | Listed Elective | Genetics and Evolutionary Biology (Biochemistry and Molecular Biology major / Clinical Sciences major / Marine Biology major / Microbiology major / Wildlife Biology major)   | 10 |
| Tri 1,3   | 1015SCG     | Listed Elective | Quantitative Reasoning (Biochemistry and Molecular Biology major / Chemistry major / Clinical Sciences major / Data Science major / Geography major / Marine Biology major / Microbiology major / Wildlife Biology major) | 10 |
| Tri 1,2   | 1031SCG     | Listed Elective | Physics 1A (Physics major)  | 10 |
| Tri 1,3   | 1043SCG     | Listed Elective | Introduction to Environmental Sustainability (Geography major / Marine Biology major / Wildlife Biology major)  | 10 |
| Tri 2     | 1044SCG     | Listed Elective | Earth Systems (Geography major / Wildlife Biology major)  | 10 |

| Trimester    | Course code | Requirement     | Course title  | CP |
|--------------|-------------|-----------------|---|----|
| Tri 2        | 1024SCG     | Listed Elective | Chemistry II (Biochemistry and Molecular Biology major / Chemistry major) (Gold Coast only)   | 10 |
|              |             |                 | <b>OR</b>   |    |
| Tri 2        | 1022SCG     | Listed Elective | Chemistry 1B (Biochemistry and Molecular Biology major/Chemistry major/Clinical Sciences major / Microbiology major) (Nathan campus only)   | 10 |
| Tri 2        | 1032SCG     | Listed Elective | Physics 1B (Physics major) (see Note 1)   | 10 |
| Tri 2,3      | 1014SCG     | Listed Elective | Statistics (Biochemistry and Molecular Biology major / Microbiology major / Chemistry major / Data Science major / Geography major / Marine Biology major / Wildlife Biology major) | 10 |
| Tri 2,3      | 1202SCG     | Listed Elective | Calculus I (Applied Mathematics major / Chemistry major/Physics major)  | 10 |
| Tri 1,2      | 1811ICT     | Listed Elective | Programming Principles (Applied Mathematics major / Data Science major)   | 10 |
| Tri 2        | 1024ENG     | Listed Elective | Intro to Digital and Spatial Analysis   | 10 |
| Tri 1,2 or 3 | 1017SCG     | Listed Elective | Foundation Mathematics (see Note 2)   | 10 |
| Tri 1        | 1088LHS     | Listed Elective | First Peoples   | 10 |

Note 1: Students undertaking 1032SCG Physics 1B must complete 1202SCG Calculus I.

Note 2: Students entering the program WITHOUT the assumed knowledge of Senior Secondary Syllabus of Mathematical Methods (or equivalent) are recommended to complete 1017SCG Foundation Mathematics in their first trimester of study. This will be considered a first year elective course. 1201SCG Linear Algebra can be completed in Year 2 in place of an elective or free-choice elective.

### Years 2 and 3

You must complete one of the following options:

| Trimester | Course code | Requirement | Course title          | CP |
|-----------|-------------|-------------|-----------------------|----|
| Tri 1,2   |             |             | Major                 | 60 |
|           |             |             | <b>AND</b>            |    |
| Tri 1,2,3 |             |             | Free-choice electives | 80 |
|           |             |             | <b>OR</b>             |    |
| Tri 1,2   |             |             | Major                 | 60 |
|           |             |             | <b>AND</b>            |    |
| Tri 1,2   |             |             | Second major          | 60 |
|           |             |             | <b>AND</b>            |    |
| Tri 1,2,3 |             |             | Free-choice electives | 20 |
|           |             |             | <b>OR</b>             |    |
| Tri 1,2   |             |             | Physics major         | 70 |
|           |             |             | <b>AND</b>            |    |
| Tri 1,2,3 |             |             | Free-choice electives | 70 |
|           |             |             | <b>OR</b>             |    |
| Tri 1,2   |             |             | Physics major         | 70 |
|           |             |             | <b>AND</b>            |    |
| Tri 1,2   |             |             | Second major          | 60 |
|           |             |             | <b>AND</b>            |    |
| Tri 1,2,3 |             |             | Free-choice elective  | 10 |

You must complete the following courses:

| Trimester | Course code | Requirement     | Course title                       | CP |
|-----------|-------------|-----------------|------------------------------------|----|
| Tri 1,2   | 3992NSC_Y1  | Core to Program | Science Capstone                   | 10 |
|           |             |                 | <b>AND</b>                         |    |
| Tri 1,2   | 3992NSC_Y2  | Core to Program | Science Capstone                   | 10 |
|           |             |                 | <b>OR</b>                          |    |
| Tri 2     | 3892ENV     | Core to Program | Environmental Capstone             | 20 |
|           |             |                 | <b>OR</b>                          |    |
| Tri 1,2,3 | 3900ESC     | Core to Program | Work Integrated Learning Placement | 20 |

## Majors (11 available)

### Applied Mathematics Major

### Applied Mathematics

You must complete the following foundation courses:

| Trimester | Course code | Requirement        | Course title                | CP |
|-----------|-------------|--------------------|-----------------------------|----|
| Tri 1,2   | 1811ICT     | Recommended Prereq | Programming Principles      | 10 |
| Tri 1,3   | 1201SCG     | Recommended Prereq | Linear Algebra (see Note 1) | 10 |
| Tri 2,3   | 1202SCG     | Recommended Prereq | Calculus I                  | 10 |

Note 1: Students who successfully completed Senior Secondary Syllabus of Mathematical Methods (or equivalent) should complete **1201SCG Linear Algebra**. Students who successfully completed Senior Secondary Syllabus of General Mathematics only (or equivalent) will complete **1017SCG Foundation Mathematics** in their first trimester of study and complete **1201SCG Linear Algebra** in their second trimester of study. If you complete **1017SCG Foundation Mathematics**, this will then be considered a first year elective course.

You must complete the following courses:

| Trimester | Course code | Requirement   | Course title                                  | CP |
|-----------|-------------|---------------|---|----|
| Tri 2     | 2201NSC     | Core to Major | Linear Algebra and Applications               | 10 |
| Tri 1     | 2205NSC     | Core to Major | Calculus II                                   | 10 |
| Tri 1     | 2202NSC     | Core to Major | Numerical Methods                             | 10 |
| Tri 2     | 2204NSC     | Core to Major | Introduction to Mathematical Modelling        | 10 |
| Tri 1     | 3201NSC     | Core to Major | Advanced Differential Equations and Modelling | 10 |
| Tri 1     | 3203NSC     | Core to Major | Complex Analysis and Applications             | 10 |

## Science Majors

### Archaeology (Nathan)

You must complete the following foundation courses:

| Trimester | Course code | Requirement        | Course title                      | CP |
|-----------|-------------|--------------------|-----------------------------------|----|
| Tri 1,3   | 1015SCG     | Recommended Prereq | Quantitative Reasoning            | 10 |
| Tri 1,3   | 1041SCG     | Recommended Prereq | Biological Systems                | 10 |
| Tri 1     | 1088LHS     | Recommended Prereq | First Peoples                     | 10 |
| Tri 2     | 1044SCG     | Recommended Prereq | Earth Systems                     | 10 |
| Tri 2     | 1042SCG     | Recommended Prereq | Genetics and Evolutionary Biology | 10 |
| Tri 2,3   | 1014SCG     | Recommended Prereq | Statistics                        | 10 |

You must complete the following courses:

| Trimester | Course code | Requirement   | Course title                            | CP |
|-----------|-------------|---------------|---|----|
| Tri 1     | 2303ENV     | Core to Major | Zoology                                 | 10 |
| Tri 1     | 2416ENV     | Core to Major | Environmental Anthropology              | 10 |
| Tri 1     | 2006ESC     | Core to Major | Archaeology: Discovering the Human Past | 10 |
| Tri 2     | 2061ESC     | Core to Major | Artefacts in Archaeology                | 10 |
| Tri 1     | 3067ESC     | Core to Major | Great Debates in Archaeology            | 10 |
| Tri 2     | 3065ESC     | Core to Major | Topics in Archaeology                   | 10 |

### Biochemistry and Molecular Biology

You must complete the following foundation courses:

| Trimester | Course code | Requirement        | Course title                                       | CP |
|-----------|-------------|--------------------|--|----|
| Tri 1,3   | 1015SCG     | Recommended Prereq | Quantitative Reasoning                             | 10 |
| Tri 1,3   | 1041SCG     | Recommended Prereq | Biological Systems                                 | 10 |
| Tri 1,3   | 1023SCG     | Recommended Prereq | Chemistry I (Gold Coast)                           | 10 |
|           |             |                    | <b>OR</b>  |    |
| Tri 1,3   | 1021SCG     | Recommended Prereq | Chemistry 1A (Nathan)                              | 10 |
| Tri 2     | 1014NSC     | Recommended Prereq | Fundamentals of Biochemistry (Nathan) (see Note 1) | 10 |
|           |             |                    | <b>OR</b>  |    |
| Tri 2     |             |                    | Listed first year course (Gold Coast)              | 10 |
| Tri 2     | 1042SCG     | Recommended Prereq | Genetics and Evolutionary Biology                  | 10 |
| Tri 2     | 1024SCG     | Recommended Prereq | Chemistry II (Gold Coast)                          | 10 |
|           |             |                    | <b>OR</b>  |    |
| Tri 2     | 1022SCG     | Recommended Prereq | Chemistry 1B (Nathan)                              | 10 |
| Tri 2,3   | 1014SCG     | Recommended Prereq | Statistics   | 10 |

Note 1: 1014NSC Fundamentals of Biochemistry is a prerequisite for 2005NSC Protein Science and 2013NSC\_Y1&Y2 Biotechniques Laboratory. Nathan based students will need to take this course before moving to second year major courses.

You must complete the following courses:

| Trimester | Course code | Requirement   | Course title  | CP |
|-----------|-------------|---------------|---|----|
| Tri 1     | 2005NSC     | Core to Major | Protein Science (Nathan)                              | 10 |
|           |             |               | <b>OR</b>   |    |
| Tri 1     | 2008MSC     | Core to Major | Structural Biochemistry (Gold Coast)                  | 10 |
| Tri 2     | 2013NSC     | Core to Major | Biotechniques Laboratory (Nathan)                     | 10 |
|           |             |               | <b>OR</b>   |    |
| Tri 2     | 2018NSC     | Core to Major | Biosciences Laboratory Skills (Gold Coast)            | 10 |
| Tri 1     | 2003NSC     | Core to Major | Metabolism (Nathan)                                   | 10 |
|           |             |               | <b>OR</b>   |    |
| Tri 2     | 2011MSC     | Core to Major | Metabolism (Gold Coast)                               | 10 |
| Tri 2     | 2012NSC     | Core to Major | Molecular Biology                                     | 10 |
| Tri 1,2   | 3001NSC     | Core to Major | Molecular Cell Biology (Nathan)                       | 10 |
|           |             |               | <b>OR</b>   |    |
| Tri 1     | 3016MSC     | Core to Major | Macromolecular and Cellular Biochemistry (Gold Coast) | 10 |

You must complete 10 credit points from the following courses:

| Trimester | Course code | Requirement       | Course title                                       | CP |
|-----------|-------------|-------------------|--|----|
| Tri 1     | 3009NSC     | Elective to Major | Biomedical Sciences Laboratory (offered at Nathan) | 10 |
| Tri 2     | 3012MSC     | Elective to Major | Clinical Biochemistry (offered at Gold Coast)      | 10 |
| Tri 2     | 3012NSC     | Elective to Major | Infectious Disease (offered at Nathan)             | 10 |
|           |             |                   | <b>OR</b>  |    |
| Tri 2     | 3013MSC     | Elective to Major | Infectious Disease (offered at Gold Coast)         | 10 |
| Tri 2     | 3022MSC     | Elective to Major | Molecular Medicine (offered at Gold Coast)         | 10 |
| Tri 1     | 3030NSC     | Elective to Major | Applied Bioinformatics (offered at Nathan)         | 10 |

## Chemistry

You must complete the following foundation courses:

| Trimester | Course code | Requirement        | Course title                         | CP |
|-----------|-------------|--------------------|--------------------------------------|----|
| Tri 1,3   | 1023SCG     | Recommended Prereq | Chemistry I (Gold Coast)             | 10 |
|           |             |                    | <b>OR</b>                            |    |
| Tri 1,3   | 1021SCG     | Recommended Prereq | Chemistry 1A (Nathan)                | 10 |
| Tri 1,3   | 1201SCG     | Recommended Prereq | Linear Algebra (Nathan) (see Note 1) | 10 |
|           |             |                    | <b>OR</b>                            |    |
| Tri 1,3   | 1015SCG     | Recommended Prereq | Quantitative Reasoning (Gold Coast)  | 10 |
| Tri 2     | 1024SCG     | Recommended Prereq | Chemistry II (Gold Coast)            | 10 |
|           |             |                    | <b>OR</b>                            |    |
| Tri 2     | 1022SCG     | Recommended Prereq | Chemistry 1B (Nathan)                | 10 |
| Tri 2,3   | 1202SCG     | Recommended Prereq | Calculus I                           | 10 |
|           |             |                    | <b>OR</b>                            |    |
| Tri 2,3   | 1014SCG     | Recommended Prereq | Statistics                           | 10 |

Note 1: Students who successfully completed Senior Secondary Syllabus of Mathematical Methods (or equivalent) should complete **1201SCG Linear Algebra**. Students who successfully completed Senior Secondary Syllabus of General Mathematics only (or equivalent) will complete **1017SCG Foundation Mathematics** in their first trimester of study and complete **1201SCG Linear Algebra** in their second trimester of study. If you complete **1017SCG Foundation Mathematics**, this will then be considered a first year elective course.

You must complete 40 credit points from the following courses:

| Trimester | Course code | Requirement       | Course title  | CP |
|-----------|-------------|-------------------|---|----|
| Tri 1     | 2103NSC     | Elective to Major | Organic Chemistry (Nathan)                          | 10 |
|           |             |                   | <b>OR</b>   |    |
| Tri 1     | 2014MSC     | Elective to Major | Organic Chemistry (Gold Coast)                      | 10 |
| Tri 2     | 2209ENV     | Elective to Major | Environmental Chemistry (Nathan)                    | 10 |
|           |             |                   | <b>OR</b>   |    |
| Tri 1     | 2203ENV     | Elective to Major | Environmental Chemistry and Monitoring (Gold Coast) | 10 |
| Tri 1     | 2101NSC     | Elective to Major | Inorganic Chemistry (Nathan)                        | 10 |
|           |             |                   | <b>OR</b>   |    |
| Tri 2     | 2208ENV     | Elective to Major | Inorganic Chemistry (Gold Coast)                    | 10 |
| Tri 2     | 2102NSC     | Elective to Major | Spectroscopic and Molecular Analysis                | 10 |
| Tri 2     | 2106NSC     | Elective to Major | Physical and Analytical Chemistry (Nathan)          | 10 |
|           |             |                   | <b>OR</b>   |    |
| Tri 2     | 2202ENV     | Elective to Major | Physical and Analytical Chemistry (Gold Coast)      | 10 |

You must complete 20 credit points from the following courses:

| Trimester | Course code | Requirement       | Course title   | CP |
|-----------|-------------|-------------------|--|----|
| Tri 1     | 3431ENV     | Elective to Major | Water Pollution Chemistry (Nathan)                   | 10 |
|           |             |                   | <b>OR</b>  |    |
| Tri 1     | 3201ENV     | Elective to Major | Aquatic Chemistry and Pollution (Gold Coast)         | 10 |
| Tri 1     | 3105NSC     | Elective to Major | Advanced Organic Chemistry                           | 10 |
| Tri 1     | 3103NSC     | Elective to Major | NMR and Structural Chemistry (not offered from 2021) | 10 |
|           |             |                   | <b>OR</b>  |    |
| Tri 1     | 3225ENV     | Elective to Major | NMR in Biological Systems                            | 10 |
| Tri 2     | 3102NSC     | Elective to Major | Advanced Analytical Chemistry (Nathan)               | 10 |
|           |             |                   | <b>OR</b>  |    |
| Tri 2     | 3202ENV     | Elective to Major | Advanced Analytical Chemistry (Gold Coast)           | 10 |

### Clinical Sciences (Nathan)

**This major is offered on the Nathan campus only**

You must complete the following foundation courses:

| Trimester | Course code | Requirement        | Course title                                       | CP |
|-----------|-------------|--------------------|--|----|
| Tri 1,3   | 1015SCG     | Recommended Prereq | Quantitative Reasoning                             | 10 |
| Tri 1,3   | 1041SCG     | Recommended Prereq | Biological Systems                                 | 10 |
| Tri 1,3   | 1021SCG     | Recommended Prereq | Chemistry 1A (Nathan)                              | 10 |
|           |             |                    | <b>OR</b>  |    |
| Tri 1,3   | 1023SCG     | Recommended Prereq | Chemistry I (Gold Coast)                           | 10 |
| Tri 1     | 1001NSC     | Recommended Prereq | Human Biology: from Cells to Systems (Nathan only) | 10 |
| Tri 2     | 1014NSC     | Recommended Prereq | Fundamentals of Biochemistry (Nathan only)         | 10 |
| Tri 2     | 1042SCG     | Recommended Prereq | Genetics and Evolutionary Biology                  | 10 |
| Tri 2     | 1022SCG     | Recommended Prereq | Chemistry 1B (Nathan)                              | 10 |
|           |             |                    | <b>OR</b>  |    |
| Tri 2     | 1024SCG     | Recommended Prereq | Chemistry II (Gold Coast)                          | 10 |

You must complete the following courses:



| Trimester | Course code | Requirement   | Course title                               | CP |
|-----------|-------------|---------------|--|----|
| Tri 2     | 2013NSC     | Core to Major | Biotechniques Laboratory (Nathan)          | 10 |
|           |             |               | <b>OR</b>                                  |    |
| Tri 2     | 2018NSC     | Core to Major | Biosciences Laboratory Skills (Gold Coast) | 10 |
| Tri 1     | 2005NSC     | Core to Major | Protein Science (Nathan)                   | 10 |
|           |             |               | <b>OR</b>                                  |    |
| Tri 1     | 2008MSC     | Core to Major | Structural Biochemistry (Gold Coast)       | 10 |
| Tri 1     | 2007NSC     | Core to Major | Human Anatomy and Physiology 1             | 10 |
| Tri 2     | 2002NSC     | Core to Major | Human Anatomy and Physiology 2 (Nathan)    | 10 |
| Tri 1     | 3009NSC     | Core to Major | Biomedical Sciences Laboratory (Nathan)    | 10 |
| Tri 2     | 3014NSC     | Core to Major | Advanced Physiology (Nathan)               | 10 |

## Data Science

You must complete the following foundation courses:

| Trimester | Course code | Requirement        | Course title           | CP |
|-----------|-------------|--------------------|------------------------|----|
| Tri 1,3   | 1015SCG     | Recommended Prereq | Quantitative Reasoning | 10 |
| Tri 1,2   | 1811ICT     | Recommended Prereq | Programming Principles | 10 |
| Tri 2,3   | 1014SCG     | Recommended Prereq | Statistics             | 10 |

You must complete 30 credit points from the following second year courses:

| Trimester | Course code | Requirement       | Course title                                   | CP |
|-----------|-------------|-------------------|--|----|
| Tri 1     | 2291ENV     | Elective to Major | Applied Data Science                           | 10 |
| Tri 1,2,3 | 2814ICT     | Elective to Major | Data Management                                | 10 |
| Tri 1,3   | 2107ENV     | Elective to Major | Introduction to Geographic Information Systems | 10 |
| Tri 1     | 2031ICT     | Elective to Major | Data Analytics Methods                         | 10 |
| Tri 2     | 2030ICT     | Elective to Major | Introduction to Big Data Analytics             | 10 |

You must complete 30 credit points from the following third year courses:

| Trimester | Course code | Requirement       | Course title  | CP |
|-----------|-------------|-------------------|---|----|
| Tri 1     | 3030ICT     | Elective to Major | Data Analytics  | 10 |
| Tri 1     | 4030ICT     | Elective to Major | Big Data Analytics and Social Media (not offered from 2023) | 10 |
|           |             |                   | <b>OR</b>   |    |
| Tri 1,2,3 | 3032ICT     | Elective to Major | Big Data Analytics and Social Media                         | 10 |
| Tri 2     | 3033ESC     | Elective to Major | Environmental Data Analytics                                | 10 |
| Tri 2     | 3031ICT     | Elective to Major | Applied Data Mining   | 10 |

## Geography

You must complete the following foundation courses:

| Trimester | Course code | Requirement        | Course title                                 | CP |
|-----------|-------------|--------------------|--|----|
| Tri 1,3   | 1015SCG     | Recommended Prereq | Quantitative Reasoning                       | 10 |
| Tri 1,3   | 1041SCG     | Recommended Prereq | Biological Systems                           | 10 |
| Tri 1,3   | 1021SCG     | Recommended Prereq | Chemistry 1A (Nathan)                        | 10 |
|           |             |                    | <b>OR</b>                                    |    |
| Tri 1,3   | 1023SCG     | Recommended Prereq | Chemistry I (Gold Coast)                     | 10 |
| Tri 1,3   | 1043SCG     | Recommended Prereq | Introduction to Environmental Sustainability | 10 |
| Tri 2,3   | 1014SCG     | Recommended Prereq | Statistics                                   | 10 |
| Tri 2     | 1044SCG     | Recommended Prereq | Earth Systems                                | 10 |

You must complete 40 credit points from the following courses:

| Trimester | Course code | Requirement       | Course title  | CP |
|-----------|-------------|-------------------|---|----|
| Tri 1,3   | 2107ENV     | Elective to Major | Introduction to Geographic Information Systems                      | 10 |
| Tri 1     | 2071ENV     | Elective to Major | Soils and Geomorphology (offered at Nathan only)                    | 10 |
| Tri 1     | 2416ENV     | Elective to Major | Environmental Anthropology  | 10 |
| Tri 2     | 2209ENV     | Elective to Major | Environmental Chemistry (Nathan)                                    | 10 |
|           |             |                   | <b>OR</b>   |    |
| Tri 1     | 2203ENV     | Elective to Major | Environmental Chemistry and Monitoring (Gold Coast)                 | 10 |
| Tri 2     | 2313AFE     | Elective to Major | Environmental and Energy Economics                                  | 10 |
|           |             |                   | <b>OR</b>   |    |
| Tri 1,3   | 2004GIR     | Elective to Major | The Government Business Nexus: Intervening, Lobbying and Responding | 10 |
| Tri 2     | 2281ENV     | Elective to Major | Economics and the Environment                                       | 10 |
| Tri 2     | 2304ENV     | Elective to Major | Rivers and Catchments (offered at Nathan only)                      | 10 |
| Tri 2,3   | 2212ENV     | Elective to Major | Ecotox and Impact Assessment (offered online)                       | 10 |

You must complete 20 credit points from the following courses:

| Trimester | Course code | Requirement       | Course title  | CP |
|-----------|-------------|-------------------|---|----|
| Tri 1     | 3431ENV     | Elective to Major | Water Pollution Chemistry (Nathan)  | 10 |
|           |             |                   | <b>OR</b>   |    |
| Tri 1     | 3201ENV     | Elective to Major | Aquatic Chemistry and Pollution (Gold Coast)                              | 10 |
| Tri 1     | 3307ENV     | Elective to Major | Environmental and Social Futures (not offered in 2021)                    | 10 |
|           |             |                   | <b>OR</b>   |    |
| Tri 1,3   | 4118ENV     | Elective to Major | Policymaking and Planning for Climate Change                              | 10 |
| Tri 2     | 3441ENV     | Elective to Major | Land Degradation and Catchment Management (offered at Nathan only)        | 10 |
| Tri 2     | 3306ENV     | Elective to Major | Environmental Management  | 10 |
| Tri 2     | 3119MED     | Elective to Major | Environmental Toxicology and Risk Assessment (offered at Gold Coast only) | 10 |
| Tri 2     | 3418ENV     | Elective to Major | Spatial Modelling (not offered from 2021)                                 | 10 |
|           |             |                   | <b>OR</b>   |    |
| Tri 2     | 3033ESC     | Elective to Major | Environmental Data Analytics  | 10 |

## Marine Biology (Gold Coast)

**This major is available on the Gold Coast campus only.**

You must complete the following foundation courses:

| Trimester | Course code | Requirement        | Course title                                 | CP |
|-----------|-------------|--------------------|--|----|
| Tri 1,3   | 1015SCG     | Recommended Prereq | Quantitative Reasoning                       | 10 |
| Tri 1,3   | 1041SCG     | Recommended Prereq | Biological Systems                           | 10 |
| Tri 1,3   | 1023SCG     | Recommended Prereq | Chemistry I                                  | 10 |
|           |             |                    | <b>OR</b>                                    |    |
| Tri 1,3   | 1021SCG     | Recommended Prereq | Chemistry 1A (from 2021)                     | 10 |
| Tri 1     | 1007ENV     | Recommended Prereq | Introduction to Marine Science               | 10 |
| Tri 1,3   | 1043SCG     | Recommended Prereq | Introduction to Environmental Sustainability | 10 |
| Tri 2,3   | 1014SCG     | Recommended Prereq | Statistics                                   | 10 |
| Tri 2     | 1042SCG     | Recommended Prereq | Genetics and Evolutionary Biology            | 10 |

You must complete 40 credit points from the following courses:

| Trimester | Course code | Requirement       | Course title                                  | CP |
|-----------|-------------|-------------------|---|----|
| Tri 1     | 2291ENV     | Elective to Major | Applied Data Science                          | 10 |
| Tri 1     | 2804ENV     | Elective to Major | Coastal Environments                          | 10 |
| Tri 2     | 2305ENV     | Elective to Major | Marine Megafauna and Planetary Health         | 10 |
| Tri 2     | 2051ENV     | Elective to Major | Ecology                                       | 10 |
| Tri 2,3   | 2212ENV     | Elective to Major | Ecotox and Impact Assessment (offered online) | 10 |

You must complete 20 credit points from the following courses:

| Trimester | Course code | Requirement   | Course title                                | CP |
|-----------|-------------|---------------|---|----|
| Tri 1     | 3801ENV     | Core to Major | Estuarine Ecology (Gold Coast)              | 10 |
| Tri 2     | 3332ENV     | Core to Major | Marine Conservation and Resource Management | 10 |
| Tri 1     | 3805ESC     | Core to Major | Coral Reefs                                 | 10 |

## Microbiology (Nathan)

This major is available on the Nathan campus only.

You must complete the following foundation courses:

| Trimester | Course code | Requirement        | Course title                          | CP |
|-----------|-------------|--------------------|---------------------------------------|----|
| Tri 1,3   | 1015SCG     | Recommended Prereq | Quantitative Reasoning                | 10 |
| Tri 1,3   | 1041SCG     | Recommended Prereq | Biological Systems                    | 10 |
| Tri 1,3   | 1021SCG     | Recommended Prereq | Chemistry 1A (Nathan)                 | 10 |
|           |             |                    | <b>OR</b>                             |    |
| Tri 1,3   | 1023SCG     | Recommended Prereq | Chemistry I (Gold Coast) (from 2021)  | 10 |
| Tri 2     | 1014NSC     | Recommended Prereq | Fundamentals of Biochemistry (Nathan) | 10 |
| Tri 2     | 1042SCG     | Recommended Prereq | Genetics and Evolutionary Biology     | 10 |
| Tri 2,3   | 1014SCG     | Recommended Prereq | Statistics                            | 10 |
| Tri 2     | 1022SCG     | Recommended Prereq | Chemistry 1B (Nathan)                 | 10 |
|           |             |                    | <b>OR</b>                             |    |
| Tri 2     | 1024SCG     | Recommended Prereq | Chemistry II (Gold Coast) (from 2021) | 10 |

You must complete the following courses:

| Trimester | Course code | Requirement   | Course title   | CP |
|-----------|-------------|---------------|--|----|
| Tri 2     | 2013NSC     | Core to Major | Biotechniques Laboratory (Nathan)                      | 10 |
|           |             |               | <b>OR</b>  |    |
| Tri 2     | 2018NSC     | Core to Major | Biosciences Laboratory Skills (Gold Coast) (from 2021) | 10 |
| Tri 1     | 2005NSC     | Core to Major | Protein Science (Nathan)                               | 10 |
|           |             |               | <b>OR</b>  |    |
| Tri 1     | 2008MSC     | Core to Major | Structural Biochemistry (Gold Coast) (from 2021)       | 10 |
| Tri 1     | 2008NSC     | Core to Major | General Microbiology (Nathan)                          | 10 |
| Tri 2     | 2010NSC     | Core to Major | Applied Microbiology (Nathan)                          | 10 |
| Tri 2     | 3018NSC     | Core to Major | Microbiology Laboratory (Nathan)                       | 10 |
| Tri 2     | 3020NSC     | Core to Major | Techniques in Molecular Microbiology (Nathan)          | 10 |

## Wildlife Biology

You must complete the following foundation courses:

| Trimester | Course code | Requirement        | Course title                                 | CP |
|-----------|-------------|--------------------|--|----|
| Tri 1,3   | 1015SCG     | Recommended Prereq | Quantitative Reasoning                       | 10 |
| Tri 1,3   | 1041SCG     | Recommended Prereq | Biological Systems                           | 10 |
| Tri 1,3   | 1023SCG     | Recommended Prereq | Chemistry I (Gold Coast)                     | 10 |
|           |             |                    | <b>OR</b>                                    |    |
| Tri 1,3   | 1021SCG     | Recommended Prereq | Chemistry 1A (Nathan)                        | 10 |
| Tri 1,3   | 1043SCG     | Recommended Prereq | Introduction to Environmental Sustainability | 10 |
| Tri 2     | 1042SCG     | Recommended Prereq | Genetics and Evolutionary Biology            | 10 |
| Tri 2,3   | 1014SCG     | Recommended Prereq | Statistics                                   | 10 |
| Tri 2     | 1044SCG     | Recommended Prereq | Earth Systems                                | 10 |

You must complete the following courses:

| Trimester | Course code | Requirement   | Course title                    | CP |
|-----------|-------------|---------------|---------------------------------|----|
| Tri 1     | 2291ENV     | Core to Major | Applied Data Science            | 10 |
| Tri 1     | 2303ENV     | Core to Major | Zoology                         | 10 |
| Tri 2     | 2051ENV     | Core to Major | Ecology                         | 10 |
| Tri 2     | 2702ENV     | Core to Major | Botany                          | 10 |
| Tri 1     | 3606ENV     | Core to Major | Conservation Biology            | 10 |
| Tri 2     | 3308ENV     | Core to Major | Emerging Topics in Conservation | 10 |

## Physics Major

### Physics

You must complete the following foundation courses:

| Trimester | Course code | Requirement        | Course title                | CP |
|-----------|-------------|--------------------|-----------------------------|----|
| Tri 1,3   | 1201SCG     | Recommended Prereq | Linear Algebra (see Note 1) | 10 |
| Tri 1,2   | 1031SCG     | Recommended Prereq | Physics 1A                  | 10 |
| Tri 2,3   | 1202SCG     | Recommended Prereq | Calculus I                  | 10 |
| Tri 2     | 1032SCG     | Recommended Prereq | Physics 1B                  | 10 |

Note 1: Students who successfully completed Senior Secondary Syllabus of Mathematical Methods (or equivalent) should complete **1201SCG Linear Algebra**. Students who successfully completed Senior Secondary Syllabus of General Mathematics only (or equivalent) will complete **1017SCG Foundation Mathematics** in their first trimester of study and complete 1201SCG in their second trimester of study. If you complete **1017SCG Foundation Mathematics**, this will then be considered a first year elective course.

You must complete the following courses:

| Trimester | Course code | Requirement   | Course title   | CP |
|-----------|-------------|---------------|--|----|
| Tri 1     | 2304NSC     | Core to Major | Statistical and Solid State II (not offered from 2021) | 10 |
|           |             |               | <b>OR</b>  |    |
| Tri 2     | 2307ESC     | Core to Major | Analytical and Statistical Mechanics                   | 10 |
| Tri 1     | 2302NSC     | Core to Major | Modern Physics Laboratory                              | 10 |
| Tri 1     | 2305NSC     | Core to Major | Quantum Mechanics, Relativity and Elementary Particles | 10 |
| Tri 2     | 2301NSC     | Core to Major | Electromagnetism and Optics                            | 10 |
| Tri 1     | 3301NSC     | Core to Major | Quantum Physics III                                    | 10 |
| Tri 2     | 3304NSC     | Core to Major | Physics Laboratory III                                 | 10 |
| Tri 2     | 3309ESC     | Core to Major | Condensed Matter Physics                               | 10 |

### Electives (1 available)

#### Free-choice electives (Science)

You may select free-choice electives from the list below or any **Undergraduate free-choice elective/s** offered across the University provided prerequisites are met. If you require guidance, please liaise with your Program Director.

| Trimester | Course code | Requirement          | Course title                            | CP |
|-----------|-------------|----------------------|---|----|
| Tri 1     | 2006ESC     | Free-choice Elective | Archaeology: Discovering the Human Past | 10 |
| Tri 2     | 2002NSC     | Free-choice Elective | Human Anatomy and Physiology 2          | 10 |
| Tri 1     | 2000MSC     | Free-choice Elective | Molecular Genetics                      | 10 |

| Trimester    | Course code | Requirement          | Course title                                   | CP |
|--------------|-------------|----------------------|--|----|
| Tri 1        | 2003NSC     | Free-choice Elective | Metabolism                                     | 10 |
| Tri 2        | 2003MSC     | Free-choice Elective | Fundamentals of Microbiology                   | 10 |
| Tri 1        | 2005NSC     | Free-choice Elective | Protein Science                                | 10 |
| Tri 2        | 2007MSC     | Free-choice Elective | Microbiology                                   | 10 |
| Tri 1        | 2007NSC     | Free-choice Elective | Human Anatomy and Physiology 1                 | 10 |
| Tri 1        | 2008MSC     | Free-choice Elective | Structural Biochemistry                        | 10 |
| Tri 1        | 2008NSC     | Free-choice Elective | General Microbiology                           | 10 |
| Tri 2        | 2010NSC     | Free-choice Elective | Applied Microbiology                           | 10 |
| Tri 2        | 2012NSC     | Free-choice Elective | Molecular Biology                              | 10 |
| Tri 2        | 2013NSC     | Free-choice Elective | Biotechniques Laboratory (Nathan)              | 10 |
|              |             |                      | <b>courseLineOperator</b>                      |    |
| Tri 2        | 2018NSC     | Free-choice Elective | Biosciences Laboratory Skills (Gold Coast)     | 10 |
| Tri 1,2 or 3 | 2043IBA     | Free-choice Elective | Innovation, Creativity and Entrepreneurship    | 10 |
| Tri 2        | 2051ENV     | Free-choice Elective | Ecology  | 10 |
| Tri 2        | 2061ESC     | Free-choice Elective | Artefacts in Archaeology                       | 10 |
| Tri 1        | 2071ENV     | Free-choice Elective | Soils and Geomorphology                        | 10 |
| Tri 1        | 2101NSC     | Free-choice Elective | Inorganic Chemistry (Nathan)                   | 10 |
|              |             |                      | <b>courseLineOperator</b>                      |    |
| Tri 1        | 2208ENV     | Free-choice Elective | Inorganic Chemistry (Gold Coast)               | 10 |
| Tri 2        | 2102NSC     | Free-choice Elective | Spectroscopic and Molecular Analysis           | 10 |
| Tri 1        | 2103NSC     | Free-choice Elective | Organic Chemistry (Nathan)                     | 10 |
|              |             |                      | <b>courseLineOperator</b>                      |    |
| Tri 1        | 2014MSC     | Free-choice Elective | Organic Chemistry (Gold Coast)                 | 10 |
| Tri 2        | 2106NSC     | Free-choice Elective | Physical and Analytical Chemistry              | 10 |
| Tri 1,3      | 2107ENV     | Free-choice Elective | Introduction to Geographic Information Systems | 10 |
| Tri 2        | 2201NSC     | Free-choice Elective | Linear Algebra and Applications                | 10 |
| Tri 2        | 2202ENV     | Free-choice Elective | Physical and Analytical Chemistry              | 10 |

| Trimester | Course code | Requirement          | Course title  | CP |
|-----------|-------------|----------------------|---|----|
| Tri 1     | 2202NSC     | Free-choice Elective | Numerical Methods   | 10 |
| Tri 1     | 2203ENV     | Free-choice Elective | Environmental Chemistry and Monitoring (Gold Coast)                 | 10 |
|           |             |                      | <b>courseLineOperator</b>   |    |
| Tri 2     | 2209ENV     | Free-choice Elective | Environmental Chemistry (Nathan)                                    | 10 |
| Tri 2     | 2204NSC     | Free-choice Elective | Introduction to Mathematical Modelling                              | 10 |
| Tri 1     | 2205NSC     | Free-choice Elective | Calculus II   | 10 |
| Tri 1,3   | 2004GIR     | Free-choice Elective | The Government Business Nexus: Intervening, Lobbying and Responding | 10 |
| Tri 2     | 2251ENV     | Free-choice Elective | Animal Diversity (Nathan) (not offered from 2021)                   | 10 |
|           |             |                      | <b>courseLineOperator</b>   |    |
| Tri 1     | 2303ENV     | Free-choice Elective | Zoology   | 10 |
| Tri 2     | 2702ENV     | Free-choice Elective | Botany  | 10 |
| Tri 2     | 2281ENV     | Free-choice Elective | Economics and the Environment                                       | 10 |
| Tri 1     | 2291ENV     | Free-choice Elective | Applied Data Science  | 10 |
| Tri 2     | 2301NSC     | Free-choice Elective | Electromagnetism and Optics   | 10 |
| Tri 1,2   | 2302NSC     | Free-choice Elective | Modern Physics Laboratory   | 10 |
| Tri 2     | 2304ENV     | Free-choice Elective | Rivers and Catchments   | 10 |
| Tri 1,2   | 2304NSC     | Free-choice Elective | Statistical and Solid State II (not offered from 2021)              | 10 |
| Tri 2     | 2307ESC     | Free-choice Elective | Analytical and Statistical Mechanics                                | 10 |
| Tri 2,3   | 2305ENV     | Free-choice Elective | Marine Megafauna and Planetary Health                               | 10 |
| Tri 1     | 2305NSC     | Free-choice Elective | Quantum Mechanics, Relativity and Elementary Particles              | 10 |
| Tri 1     | 2416ENV     | Free-choice Elective | Environmental Anthropology  | 10 |
| Tri 1     | 2804ENV     | Free-choice Elective | Coastal Environments  | 10 |
| Tri 2     | 2803ENV     | Free-choice Elective | Marine Biodiscovery   | 10 |
| Tri 2,3   | 2212ENV     | Free-choice Elective | Ecotox and Impact Assessment (offered online)                       | 10 |
| Tri 2     | 2810ICT     | Free-choice Elective | Software Technologies   | 10 |
| Tri 2     | 2703ICT     | Free-choice Elective | Web Application Development (not offered from 2026)                 | 10 |
| Tri 1,2   | 3001NSC     | Free-choice Elective | Molecular Cell Biology (Nathan)                                     | 10 |

| Trimester | Course code | Requirement          | Course title  | CP |
|-----------|-------------|----------------------|---|----|
|           |             |                      | <b>courseLineOperator</b>                                     |    |
| Tri 1     | 3016MSC     | Free-choice Elective | Macromolecular and Cellular Biochemistry (Gold Coast)         | 10 |
| Tri 3     | 3002ESC     | Free-choice Elective | Biomolecular Sciences Laboratory                              | 20 |
| Tri 1     | 3004MSC     | Free-choice Elective | Immunology (Gold Coast)                                       | 10 |
| Tri 1     | 3007NSC     | Free-choice Elective | Immunology (Nathan)   | 10 |
| Tri 1     | 3006MSC     | Free-choice Elective | Clinical Microbiology   | 10 |
| Tri 1     | 3009NSC     | Free-choice Elective | Biomedical Sciences Laboratory                                | 10 |
| Tri 2     | 3012MSC     | Free-choice Elective | Clinical Biochemistry   | 10 |
| Tri 2     | 3012NSC     | Free-choice Elective | Infectious Disease (offered at Nathan campus)                 | 10 |
|           |             |                      | <b>courseLineOperator</b>                                     |    |
| Tri 2     | 3013MSC     | Free-choice Elective | Infectious Disease (offered at Gold Coast)                    | 10 |
| Tri 2     | 3014NSC     | Free-choice Elective | Advanced Physiology   | 10 |
| Tri 2     | 3018NSC     | Free-choice Elective | Microbiology Laboratory                                       | 10 |
| Tri 2     | 3020NSC     | Free-choice Elective | Techniques in Molecular Microbiology                          | 10 |
| Tri 2     | 3022MSC     | Free-choice Elective | Molecular Medicine  | 10 |
| Tri 2,3   | 2034IBA     | Free-choice Elective | Griffith Innovation Challenge                                 | 10 |
| Tri 2     | 3102NSC     | Free-choice Elective | Advanced Analytical Chemistry (Nathan)                        | 10 |
|           |             |                      | <b>courseLineOperator</b>                                     |    |
| Tri 2     | 3202ENV     | Free-choice Elective | Advanced Analytical Chemistry (Gold Coast)                    | 10 |
| Tri 1     | 3103NSC     | Free-choice Elective | NMR and Structural Chemistry (Nathan) (not offered from 2021) | 10 |
| Tri 1     | 3225ENV     | Free-choice Elective | NMR in Biological Systems                                     | 10 |
| Tri 1     | 3105NSC     | Free-choice Elective | Advanced Organic Chemistry                                    | 10 |
| Tri 2     | 3119MED     | Free-choice Elective | Environmental Toxicology and Risk Assessment                  | 10 |
| Tri 1     | 3201ENV     | Free-choice Elective | Aquatic Chemistry and Pollution (Gold Coast)                  | 10 |
|           |             |                      | <b>courseLineOperator</b>                                     |    |
| Tri 1     | 3431ENV     | Free-choice Elective | Water Pollution Chemistry (Nathan)                            | 10 |
| Tri 1     | 3201NSC     | Free-choice Elective | Advanced Differential Equations and Modelling                 | 10 |
| Tri 1     | 3203NSC     | Free-choice Elective | Complex Analysis and Applications                             | 10 |



| Trimester    | Course code | Requirement          | Course title                                 | CP |
|--------------|-------------|----------------------|--|----|
| Tri 2        | 3204NSC     | Free-choice Elective | Advanced Numerical Methods                   | 10 |
| Tri 1        | 3241ENV     | Free-choice Elective | Quantitative Ecology (not offered from 2021) | 10 |
| Tri 1        | 3301NSC     | Free-choice Elective | Quantum Physics III                          | 10 |
| Tri 2        | 3309ESC     | Free-choice Elective | Condensed Matter Physics                     | 10 |
| Tri 2        | 3304NSC     | Free-choice Elective | Physics Laboratory III                       | 10 |
| Tri 2        | 3306ENV     | Free-choice Elective | Environmental Management                     | 10 |
| Tri 1        | 3307ENV     | Free-choice Elective | Environmental and Social Futures             | 10 |
| Tri 2        | 3308ENV     | Free-choice Elective | Emerging Topics in Conservation              | 10 |
| Tri 2        | 3332ENV     | Free-choice Elective | Marine Conservation and Resource Management  | 10 |
| Tri 2        | 3441ENV     | Free-choice Elective | Land Degradation and Catchment Management    | 10 |
| Tri 1        | 3606ENV     | Free-choice Elective | Conservation Biology (not offered from 2021) | 10 |
| Tri 1        | 3801ENV     | Free-choice Elective | Estuarine Ecology                            | 10 |
| Tri 2        | 3030NSC     | Free-choice Elective | Applied Bioinformatics (offered from 2021)   | 10 |
| Tri 1        | 3804ENV     | Free-choice Elective | Marine Ecosystem Modelling                   | 10 |
| Tri 1,2 or 3 | 3911ESC     | Free-choice Elective | Work Integrated Learning Special Topic       | 10 |
| Tri 1,2 or 3 | 3922ESC     | Free-choice Elective | Research Special Topic                       | 10 |
| Tri 1        | 3003NSC     | Free-choice Elective | Neuroscience                                 | 10 |