Bachelor of Engineering (Honours)/Bachelor of Environmental Science (International students)

Program code
1555

Available at
Nathan Campus

Duration
5 years full-time

Credit points
400

Indicative fee
$40,500.00* per year (more)
* 2024 indicative annual fee

Entry requirements
6.5
IELTS (Academic) (more)

CRICOS code
091200E

Commencing in
Trimester 1 and Trimester 2

Prerequisites
NIL

Assumed knowledge
Any General or Applied English subject (Units 3 and 4, C)
Mathematical Methods (Units 3 and 4, C)

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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 Engineering (Honours)/Bachelor of Environmental Science [BEng(Hons)/BEnvSc]*, you must successfully complete 400 credit points, made up of the core courses AND

- 20 credit points of foundation courses for your chosen Engineering major;
- 10 credit points of foundation courses for your chosen Environmental Science major;
- 160 credit points for an Engineering major;
- 60 credit points for an Environmental Science major;
- 30 credit points of listed electives.

For International students required to complete the English Language Enhancement course

For the award of *Bachelor of Engineering (Honours)/Bachelor of Environmental Science [BEng(Hons)/BEnvSc]*, you must successfully complete 400 credit points, made up of the core courses AND

- 10 credit points for the English Language Enhancement course (5903LHS)
- 20 credit points of foundation courses for your chosen Engineering major;
- 10 credit points of foundation courses for your chosen Environmental Science major;
- 160 credit points for an Engineering major;
- 60 credit points for an Environmental Science major;
- 20 credit points for a Listed elective.

Other program requirements

You must successfully complete:

- no more than 150 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.

You must also complete a minimum of 12 weeks (60 days) of approved experience in an Engineering practice environment (or a satisfactory alternative) during your degree studies.

Honours

Classification of Honours - Bachelor of Engineering (Honours)

The class of Honours to be awarded to each student in this degree will be determined by the School Assessment Board on the basis of the Program Grade Point Average for the engineering components of the program and the performance in the final year IAP course.

A minimum IAP mark of 50% is required for the award of the Bachelor of Engineering (Honours).

Students who have repeated the IAP course will be eligible for no higher than Class III Honours. A second fail in the IAP course will result in termination of the student's enrolment in the program.

Cut-offs for Honours Classifications

- **Class I Honours:**
  - Program Grade Point Average - 6.200 (minimum)
  - Minimum IAP Mark - 80%
- **Class IIA Honours:**
  - Program Grade Point Average - 5.650 (minimum)
  - Minimum IAP Mark - 70%
- **Class IIB Honours:**
  - Program Grade Point Average - 5.000 (minimum)
  - Minimum IAP Mark - 60%
- **Class III Honours:**
  - Program Grade Point Average - < 5.000
  - Minimum IAP Mark - 50%

Australian Qualifications Framework (AQF) Level and Type

The Australian Qualifications Framework (AQF) is the national policy for regulated qualifications in Australian education and training. The Bachelor of Engineering (Honours) is accredited as an AQF Level 8 - Bachelor Honours Degree.The Bachelor of Environmental Science is accredited as an AQF Level 7 - Bachelor Degree.

English Language Enhancement

All undergraduate International students are required to complete an **English Language Enhancement Course** unless specific criteria are met as specified in Section 5.0 Qualifications Procedure.

The following course must be completed in the first trimester of study:

- 5903LHS Language and Communication for Sciences

Advice regarding the requirement to complete the English Language Enhancement Course is available via the *myGriffith* portal (in the To Do List).

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 the Bachelor of Engineering (Honours) and Bachelor of Environmental Science 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.

Note: 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.
Students that complete 5903LHS will only be required to complete 20 credit points of Listed electives.

Trimester	Course code	Requirement	Course title	CP
Tri 2	5903LHS	English Enhancement	Language and Communication for Sciences	10

Year 1

Trimester	Course code	Requirement	Course title	CP
Tri 2	1017SCG	Listed Elective	Foundation Mathematics (see Note 1)	10

Note 1: Students entering the program WITHOUT the assumed knowledge of Maths Methods or equivalent are required to undertake 1017SCG Foundation Mathematics in their first trimester of study.

The course 1017SCG replaces one elective in your program.

You must complet the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1,3	1010ENG	Hons Core to Program	Engineering Mathematics 1	10
Tri 1,2	1018ENG	Hons Core to Program	Engineering Science	10
Tri 2	1008ENG	Hons Core to Program	Programming and Computing for Engineers	10
Tri 2			Chosen Foundation major	10
Tri 1,3	1022ENG	Hons Core to Program	Engineering Design Practice	10
Tri 1,2,3	1020ENG	Hons Core to Program	Engineering Mathematics 2	10
Tri 1,3	1017ENG	Hons Core to Program	Engineering Materials	10
Tri 3			Chosen Foundation major	10

Note 1. For students who are required to complete Foundation Mathematics

In Tri 2 take 1017SCGENG Foundation Mathematics in place of 1010ENG.

In Tri 3 take 1010ENG Engineering Mathematics 1

In Tri 1 take 1020ENG Engineering Mathematics 2

You must complete 20 credit points of **foundation courses for your chosen Engineering major**:

Civil Engineering

You must complete the following **foundation** courses:

Trimester	Course code	Requirement	Course title	CP
Tri 2	1108ENG	Mandatory Prereq	Digital and Data Skills	10
Tri 2,3	1501ENG	Mandatory Prereq	Engineering Mechanics	10

Environmental Engineering

Trimester	Course code	Requirement	Course title	CP
Tri 2	1108ENG	Mandatory Prereq	Digital and Data Skills	10
Tri 2,3	1501ENG	Mandatory Prereq	Engineering Mechanics	10

Electronic Engineering

You must complete the following **foundation** courses:

Trimester	Course code	Requirement	Course title	CP
Tri 2	1303ENG	Mandatory Prereq	Digital Systems	10
Tri 2,3	1301ENG	Mandatory Prereq	Electric Circuits	10

Mechanical Engineering

You must complete the following **foundation** courses:

Trimester	Course code	Requirement	Course title	CP
Tri 2	1508ENG	Mandatory Prereq	Digital Design and Modelling	10
Tri 2,3	1501ENG	Mandatory Prereq	Engineering Mechanics	10

Years 2-5

You must complete 10 credit points of **foundation courses for your chosen Environmental Science major**:

Trimester	Course code	Requirement	Course title	CP
Tri 2	1024ENG	Listed Elective 2	Intro to Digital and Spatial Analysis (for Environmental Management major) (see Note 1)	10
Tri 2	1042SCG	Listed Elective 2	Genetics and Evolutionary Biology (for Ecology & Conservation major)	10
Tri 2	1022SCG	Listed Elective 2	Chemistry 1B (for Soil & Water Science Major) (see Note 1)	10
			OR	
Tri 2	1024SCG	Listed Elective 2	Chemistry II (for Soil & Water Science Major) (see Note 1)	10
Tri 1	1037ENV	Listed Elective 2	Understanding Australian Cities (for Urban Environments major and Civil Engineering major)	10

Note 1: Civil Major students cannot complete listed elective 1024ENG (Intro to Digital and Spatial Analysis) as it is incompatible with (1108ENG Digital and Data skills). Students must choose 1037ENV instead of 1024ENG.

Note 2: Soil and Water major is only suitable for students who have completed chemistry to Year 12 level at Secondary School.

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	2205NSC	Core to Program	Calculus II	10
Tri 1,3	1021SCG	Core to Program	Chemistry 1A (Nathan) (see Note 1)	10
			OR	
Tri 1,3	1023SCG	Core to Program	Chemistry I (Gold Coast) (see Note 1)	10
			OR	
Tri 1		Listed Elective	Listed elective (see Note 1)	10
Tri 1,3	1041SCG	Core to Program	Biological Systems	10
Tri 1	1043SCG	Core to Program	Introduction to Environmental Sustainability	10
Tri 2	1044SCG	Core to Program	Earth Systems	10
Tri 1,2			Engineering major	160
Tri 1,2			Environmental Science Major	60
Tri 1,2			Listed Electives	20
Tri 2	3004ENG	Hons Core to Program	Project Management Principles	10
Tri 1	3107ENG	Hons Core to Program	Construction Materials (For Civil Major students only)	10
			OR	
Tri 2	3319ENG	Hons Core to Program	Power Transmission and Distribution (For Electrical and Electronic Major students only)	10
			OR	
Tri 2	6522ENG	Hons Core to Program	Computational Statics and Dynamics (For Mechanical Major students only)	10

Note 1: Students completing the Environmental Engineering major must complete a Listed first year Environmental Science elective.

Bachelor of Engineering (Honours) - Majors (4 available)

Civil Engineering

Year 2

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	2002ENG	Hons Core to Major	Fluid Mechanics and Hydraulics	10
Tri 1	2101ENG	Hons Core to Major	Mechanics of Materials I	10
Tri 1	2104ENG	Hons Core to Major	Construction Methods and Practices	10
Tri 2	2004ENG	Hons Core to Major	Hydrology	10

Year 3

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	3101ENG	Hons Core to Major	Structural Analysis	10
Tri 2	2102ENG	Hons Core to Major	Soil Mechanics	10
Tri 2	3113ENG	Hons Core to Major	Civil Engineering Design Project	10

Year 4

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 2	3103ENG	Hons Core to Major	Concrete Structures	10
Tri 2	2103ENG	Hons Core to Major	Structural Design	10
Tri 1	3102ENG	Hons Core to Major	Geotechnical Engineering	10

Year 5

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	6002ENG	Hons Core to Major	IAP (see Note 1)	40
Tri 2	6106ENG	Hons Core to Major	Transportation Engineering	10
Tri 2	6209ENG	Hons Core to Major	System Design Project (Nathan)	10

Note 1: It is a requirement that students complete a minimum of 60 days approved experience in an engineering practice environment (or a satisfactory alternative) during their degree studies. A co-requisite of this course is the completion of a minimum of 12 weeks (60 days) of approved experience in an engineering practice environment (or a satisfactory alternative).

Electronic Engineering

Year 2

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	2319ENG	Hons Core to Major	Introduction to Electronics	10
Tri 1	2322ENG	Hons Core to Major	Engineering C	10
Tri 1	2305ENG	Hons Core to Major	Signals and Systems	10
Tri 2	2323ENG	Hons Core to Major	Data and Computer Communications	10

Year 3

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 2	2301ENG	Hons Core to Major	Semiconductor Devices and Circuits	10
Tri 2	3303ENG	Hons Core to Major	Digital Signal Processing	10
Tri 2	2303ENG	Hons Core to Major	Embedded Systems	10
Tri 2	2314ENG	Hons Core to Major	Engineering Electromagnetics	10

Year 4

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	3304ENG	Hons Core to Major	Control Systems	10
Tri 1	3301ENG	Hons Core to Major	Practical Electronics	10
Tri 1	3302ENG	Hons Core to Major	Computer Systems	10
Tri 2	3324ENG	Hons Core to Major	Communication Systems and Circuits	10

Year 5

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	6002ENG	Hons Core to Major	IAP (see Note 1)	40

Note 1: It is a requirement that students complete a minimum of 60 days approved experience in an engineering practice environment (or a satisfactory alternative) during their degree studies. A co-requisite of this course is the completion of a minimum of 12 weeks (60 days) of approved experience in an engineering practice environment (or a satisfactory alternative).

Environmental Engineering

Year 2

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1,3	1021SCG	Hons Core to Major	Chemistry 1A	10
Tri 1	2002ENG	Hons Core to Major	Fluid Mechanics and Hydraulics	10
Tri 1	2202ENG	Hons Core to Major	Environmental Microbiology and Ecology	10
Tri 1	2004ENG	Hons Core to Major	Hydrology	10

Year 3

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	4007ENG	Hons Core to Major	Heat and Mass Transfer Engineering	10
Tri 2	2102ENG	Hons Core to Major	Soil Mechanics	10
Tri 2	2201ENG	Hons Core to Major	Engineering Thermodynamics	10

Year 4

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	3201ENG	Hons Core to Major	Water and Wastewater Treatment Fundamentals	10
Tri 1	3202ENG	Hons Core to Major	Solid Waste Engineering	10
Tri 2	3113ENG	Hons Core to Major	Civil Engineering Design Project	10

Year 5

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	6002ENG	Hons Core to Major	IAP (see Note 1)	40
Tri 2	6209ENG	Hons Core to Major	System Design Project	10
Tri 2	6201ENG	Hons Core to Major	Air Quality Monitoring and Control	10

Note 1: It is a requirement that students complete a minimum of 60 days approved experience in an engineering practice environment (or a satisfactory alternative) during their degree studies. A co-requisite of this course is the completion of a minimum of 12 weeks (60 days) of approved experience in an engineering practice environment (or a satisfactory alternative).

Mechanical Engineering

Year 2

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	2517ENG	Hons Core to Major	Kinematics and Dynamics	10
Tri 1	2101ENG	Hons Core to Major	Mechanics of Materials I	10
Tri 1	2502ENG	Hons Core to Major	Mechanical Engineering Design	10

Year 3

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	2002ENG	Hons Core to Major	Fluid Mechanics and Hydraulics	10
Tri 1	3304ENG	Hons Core to Major	Control Systems	10
Tri 1	4007ENG	Hons Core to Major	Heat and Mass Transfer Engineering	10
Tri 2	2105ENG	Hons Core to Major	Mechanics of Materials 2	10
Tri 2	2501ENG	Hons Core to Major	Manufacturing Technology	10
Tri 2	2201ENG	Hons Core to Major	Engineering Thermodynamics	10

Year 4

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 2	3508ENG	Hons Core to Major	Materials and Manufacturing	10
Tri 2	3511ENG	Hons Core to Major	Design of Machine Elements	10
Tri 2	2318ENG	Hons Core to Major	Electromechanics	10

Year 5

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	6002ENG	Hons Core to Major	IAP (see Note 1)	40

Note 1: It is a requirement that students complete a minimum of 60 days approved experience in an engineering practice environment (or a satisfactory alternative) during their degree studies. A co-requisite of this course is the completion of a minimum of 12 weeks (60 days) of approved experience in an engineering practice environment (or a satisfactory alternative).

Bachelor of Environmental Science - Majors (4 available)

Ecology and Conservation

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	2291ENV	Core to Major	Applied Data Science	10
Tri 2	2702ENV	Core to Major	Botany	10
Tri 2	2051ENV	Core to Major	Ecology	10
Tri 1	2303ENV	Core to Major	Zoology	10
Tri 1	3606ENV	Core to Major	Conservation Biology	10
Tri 2	3308ENV	Core to Major	Emerging Topics in Conservation	10
			OR	
Tri 2	3306ENV	Core to Major	Environmental Management	10

Environmental Management

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1	2416ENV	Core to Major	Environmental Anthropology	10
Tri 1,3	2107ENV	Core to Major	Introduction to Geographic Information Systems	10
Tri 1,3	2004GIR	Core to Major	The Government Business Nexus: Intervening, Lobbying and Responding	10
			OR	
Tri 2	2313AFE	Core to Major	Environmental and Energy Economics (Online)	10
Tri 2	2281ENV	Core to Major	Economics and the Environment	10
Tri 1,3	4118ENV	Core to Major	Policymaking and Planning for Climate Change	10
Tri 2	3306ENV	Core to Major	Environmental Management	10

Soil and Water Science

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	2071ENV	Core to Major	Soils and Geomorphology	10
Tri 2	2209ENV	Core to Major	Environmental Chemistry	10
Tri 2	2304ENV	Core to Major	Rivers and Catchments	10
Tri 1	3431ENV	Core to Major	Water Pollution Chemistry	10
Tri 2	3441ENV	Core to Major	Land Degradation and Catchment Management	10

Urban Environments

You must complete the following courses:

Trimester	Course code	Requirement	Course title	CP
Tri 1,3	2107ENV	Core to Major	Introduction to Geographic Information Systems	10
Tri 1	2315ENV	Core to Major	Urban Ecology and Biodiversity	10
Tri 2	2414ENV	Core to Major	Urban Environmental Systems	10
Tri 2,3	2212ENV	Core to Major	Ecotox and Impact Assessment	10
			OR	
Tri 2	2304ENV	Core to Major	Rivers and Catchments	10
Tri 1,3	4118ENV	Core to Major	Policymaking and Planning for Climate Change	10
Tri 2	3033ESC	Core to Major	Environmental Data Analytics	10

Electives (1 available)
Listed electives

Trimester	Course code	Requirement	Course title	CP
Tri 1,2,3	1017SCG	Listed Elective 3	Foundation Mathematics	10
Tri 2	1042SCG	Listed Elective 3	Genetics and Evolutionary Biology	10
Tri 2	1044SCG	Listed Elective 3	Earth Systems	10
Tri 2	1024ENG	Listed Elective 3	Intro to Digital and Spatial Analysis (see Note 1)	10
Tri 1	1037ENV	Listed Elective 3	Understanding Australian Cities	10
Tri 2	1022SCG	Listed Elective 3	Chemistry 1B	10
			courseLineOperator	
Tri 2	1024SCG	Listed Elective 3	Chemistry II	10
Tri 1,2,3	3900ESC	Listed Elective 3	Work Integrated Learning Placement	20
Tri 1,2,3	3911ESC	Listed Elective 3	Work Integrated Learning Special Topic	10
Tri 2	6205ENG	Listed Elective 3	Hydrologic and Hydraulic Modelling	10

Note 1: Civil ENG Major students cannot complete listed elective 1024ENG (Intro to Digital and Spatial Analysis) as it is incompatible with (1108ENG Digital and Data skills). Students must choose 1037ENV instead of 1024ENG.