

SUSTAINABILITY ENGINEERING, TESTAMUR MAJOR (T129)

Western Sydney University Major Code: T129

Previous Code: MT3050.1

Available to students in other Western Sydney University programs?
No

Engineers are leaders in developing novel approaches to solving the biggest challenges faced by environmental and interrelated systems. In this Major, students assess the impact of industrial development then propose design solutions using holistic, futuristic and sustainable technologies and strategies. Through hands-on, real-life projects, students explore solutions that integrate technical, technological (IoT), social, cultural, geographical, regulatory and ethical factors particularly in relation to water, air and land. This major will benefit students aiming for careers such as Environmental Engineer/Scientist/Consultant, Natural Resources Manager, Waste Engineer/Manager/Consultant, and Sustainability Engineer/Manager/Consultant. All students complete a mandatory industrial placement.

Location

| Campus | Mode | Advice |
|---|----------|--|
| Parramatta Campus - Victoria Road | Internal | Program Advice (edbe@westernsydney.edu.au) |
| Parramatta City Campus-Macquarie Street | Internal | Program Advice (edbe@westernsydney.edu.au) |
| Penrith Campus | Internal | Program Advice (edbe@westernsydney.edu.au) |

Major Sequence Current

This major sequence applies to students who commenced in 2024 or later. If you commenced prior to 2024 please refer to the Sequence 2022-23 tab for details.

This major is included in Bachelor of Engineering Science, Bachelor of Engineering (Honours), Bachelor of Engineering Advanced (Honours) and Bachelor of Engineering (Honours)/Bachelor of Business.

Please follow the recommended sequence for your program as noted below.

Bachelor of Engineering (Honours) (3740)

Qualification for this award requires the successful completion of 320 credit points, which include the subjects listed in the recommended sequence below.

* All students undertaking the Bachelor of Engineering (Honours) are required to enrol in MATH 1021 Mathematics for Engineers Preliminary and undertake a readiness test at the beginning of their study.

The readiness test will be conducted at the beginning of the first semester of enrolment and the result will be used to determine whether a student will remain in MATH 1021 Mathematics for Engineers Preliminary or be transferred by the School to MATH 1016 Mathematics for Engineers 1.

Students remaining in MATH 1021 Mathematics for Engineers Preliminary will be required to complete MATH 1016 Mathematics for Engineers 1 during second semester and will be encouraged to complete MATH 1019 Mathematics for Engineers 2 during the Summer session.

** Electives must be Level 2 or higher (An exception applies for students completing MATH 1021 Mathematics for Engineers Preliminary. This subject will then count as one of the elective subjects)

Start-year intake

| Course | Title | Credit Points |
|--|---|---------------|
| Year 1 | | |
| Autumn session | | |
| ENGR 1011 | Engineering Physics | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Select one of the following: | | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | |
| MATH 1016 | Mathematics for Engineers 1 | |
| Credit Points | | 40 |
| Spring session | | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Select one of the following: | | 10 |
| MATH 1016 | Mathematics for Engineers 1 | |
| MATH 1019 | Mathematics for Engineers 2 | |
| Credit Points | | 40 |
| Year 2 | | |
| Autumn session | | |
| CIVL 1001 | Surveying for Engineers | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| EART 2001 | Climate Change Science | 10 |
| Credit Points | | 40 |
| Spring session | | |
| CIVL 3011 | Hydraulics | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| CIVL 2002 | Environmental Engineering | 10 |
| Credit Points | | 40 |
| Year 3 | | |
| Autumn session | | |
| CIVL 4017 | Surface Water Hydrology | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| Select one elective** or minor subject | | 10 |
| Credit Points | | 40 |
| Spring session | | |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| CIVL 3019 | Wastewater Systems Design | 10 |
| CIVL 4021 | Sustainable Waste Engineering | 10 |
| Select one elective** or minor subject | | 10 |
| Industrial Experience | | |

| | | |
|--|---------------------------------------|------------|
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| Credit Points | | 40 |
| Year 4 | | |
| Autumn session | | |
| ENGR 4041 | Final Year Project 1 (UG Engineering) | 20 |
| ENGR 4034 | Climate Smart Engineering | 10 |
| Select one elective** or minor subject | | 10 |
| Credit Points | | 40 |
| Spring session | | |
| ENGR 4035 | Smart and Liveable Cities | 10 |
| ENGR 4042 | Final Year Project 2 (UG Engineering) | 20 |
| Select one elective** or minor subject | | 10 |
| Credit Points | | 40 |
| Total Credit Points | | 320 |

Mid-year intake

| Course | Title | Credit Points |
|------------------------------|---------------------------------------|---------------|
| Year 1 | | |
| Spring session | | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Select one of the following: | | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | |
| MATH 1016 | Mathematics for Engineers 1 | |
| Credit Points | | 40 |
| Autumn session | | |
| CIVL 2003 | Fluid Mechanics | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| Select one of the following: | | 10 |
| MATH 1016 | Mathematics for Engineers 1 | |
| MATH 1019 | Mathematics for Engineers 2 | |
| Credit Points | | 40 |
| Year 2 | | |
| Spring session | | |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| CIVL 3011 | Hydraulics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| CIVL 1001 | Surveying for Engineers | 10 |
| EART 2001 | Climate Change Science | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| Credit Points | | 40 |
| Year 3 | | |
| Spring session | | |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| CIVL 3019 | Wastewater Systems Design | 10 |
| CIVL 2002 | Environmental Engineering | 10 |
| CIVL 4021 | Sustainable Waste Engineering | 10 |
| Credit Points | | 40 |

| | | |
|--|---|------------|
| Autumn session | | |
| CIVL 4017 | Surface Water Hydrology | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| Select two electives** or minor subjects | | 20 |
| Industrial Experience | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| Credit Points | | 40 |
| Year 4 | | |
| Spring session | | |
| ENGR 4041 | Final Year Project 1 (UG Engineering) | 20 |
| ENGR 4035 | Smart and Liveable Cities | 10 |
| Select one elective** or minor subject | | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| ENGR 4042 | Final Year Project 2 (UG Engineering) | 20 |
| ENGR 4034 | Climate Smart Engineering | 10 |
| Select one elective** or minor subject | | 10 |
| Credit Points | | 40 |
| Total Credit Points | | 320 |

Bachelor of Engineering Advanced (Honours) (3771)

Qualification for this award requires the successful completion of 320 credit points, which include the subjects listed in the recommended sequence below.

** Electives must be Level 2 or higher

Start-year intake

| Course | Title | Credit Points |
|-----------------------|--|---------------|
| Year 1 | | |
| Autumn session | | |
| MATH 1034 | Mathematics for Engineers 1 (Advanced) | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| ENGR 1047 | Advanced Engineering Physics 1 | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| Credit Points | | 40 |
| Spring session | | |
| MATH 1035 | Mathematics for Engineers 2 (Advanced) | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 2023 | Advanced Engineering Physics 2 | 10 |
| Credit Points | | 40 |
| Year 2 | | |
| Autumn session | | |
| CIVL 1001 | Surveying for Engineers | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| EART 2001 | Climate Change Science | 10 |
| Credit Points | | 40 |
| Spring session | | |
| CIVL 3011 | Hydraulics | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |

Students who fail to maintain a minimum GPA of 5.0 at the end of completion of 160 Credit Points, and again at the completion of 200 Credit points will be automatically transferred to the B. Engineering (Honours) (3740) program.

| Credit Points | | 40 |
|--|---|-----|
| Year 3 | | |
| Autumn session | | |
| CIVL 4017 | Surface Water Hydrology | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| Select one elective** or minor subject | | 10 |
| Credit Points | | 40 |
| Spring session | | |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| CIVL 3019 | Wastewater Systems Design | 10 |
| CIVL 4021 | Sustainable Waste Engineering | 10 |
| Select one elective** or minor subject | | 10 |
| Industrial Experience | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| Credit Points | | 40 |
| Year 4 | | |
| Autumn session | | |
| ENGR 4043 | Advanced Engineering Thesis 1: Preliminary Investigations | 20 |
| ENGR 4034 | Climate Smart Engineering | 10 |
| Select one elective** or minor subject | | 10 |
| Credit Points | | 40 |
| Spring session | | |
| ENGR 4044 | Advanced Engineering Thesis 2: Detailed Investigations | 20 |
| ENGR 4035 | Smart and Liveable Cities | 10 |
| Select one elective** or minor subject | | 10 |
| Credit Points | | 40 |
| Total Credit Points | | 320 |

Mid-year intake

| Course | Title | Credit Points |
|-----------------------|--|---------------|
| Year 1 | | |
| Spring session | | |
| MATH 1034 | Mathematics for Engineers 1 (Advanced) | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 2023 | Advanced Engineering Physics 2 | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| MATH 1035 | Mathematics for Engineers 2 (Advanced) | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| ENGR 1047 | Advanced Engineering Physics 1 | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| Credit Points | | 40 |
| Year 2 | | |
| Spring session | | |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| CIVL 3011 | Hydraulics | 10 |

| PROC 1008 | Introduction to Materials Engineering | 10 |
|--|---|-----|
| Credit Points | | 40 |
| Autumn session | | |
| CIVL 1001 | Surveying for Engineers | 10 |
| EART 2001 | Climate Change Science | 10 |
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Students who fail to maintain a minimum GPA of 5.0 at the end of completion of 160 Credit Points, and again at the completion of 200 Credit points will be automatically transferred to the B. Engineering (Honours) (3740) program. | | |
| Credit Points | | 40 |
| Year 3 | | |
| Spring session | | |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| CIVL 3019 | Wastewater Systems Design | 10 |
| CIVL 4021 | Sustainable Waste Engineering | 10 |
| Select one elective** or minor subject | | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| CIVL 4017 | Surface Water Hydrology | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| Select one elective** or minor subject | | 10 |
| Industrial Experience | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| Credit Points | | 40 |
| Year 4 | | |
| Spring session | | |
| ENGR 4043 | Advanced Engineering Thesis 1: Preliminary Investigations | 20 |
| ENGR 4035 | Smart and Liveable Cities | 10 |
| Select one elective** or minor subject | | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| ENGR 4044 | Advanced Engineering Thesis 2: Detailed Investigations | 20 |
| ENGR 4034 | Climate Smart Engineering | 10 |
| Select one elective** or minor subject | | 10 |
| Credit Points | | 40 |
| Total Credit Points | | 320 |

Bachelor of Engineering (Honours)/ Bachelor of Business (3800)

Qualification for this award requires the successful completion of 440 credit points, which include the subjects listed in the recommended sequence below.

Start-year intake

| Course | Title | Credit Points |
|-----------------------|--------------------------------------|---------------|
| Year 1 | | |
| Autumn session | | |
| MATH 1016 | Mathematics for Engineers 1 | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |

| | |
|------------------------------|--|
| BBus Core Subject 1 | 10 |
| Credit Points | 40 |
| Spring session | |
| MATH 1019 | Mathematics for Engineers 2 10 |
| PROC 1008 | Introduction to Materials Engineering 10 |
| BBus Core Subject 2 | 10 |
| BBus Core Subject 3 | 10 |
| Credit Points | 40 |
| Year 2 | |
| Autumn session | |
| ELEC 1006 | Engineering Computing 10 |
| BBus Core Subject 4 | 10 |
| BBus Professional Subject 1 | 10 |
| BBus Professional Subject 2 | 10 |
| Credit Points | 40 |
| Spring session | |
| ELEC 1003 | Electrical Fundamentals 10 |
| ENGR 1018 | Fundamentals of Mechanics 10 |
| BBus Major Subject 1 | 10 |
| BBus Major Subject 2 | 10 |
| Credit Points | 40 |
| Year 3 | |
| Autumn session | |
| ENGR 1050 | Sustainable Engineering Fundamentals 10 |
| CIVL 1001 | Surveying for Engineers 10 |
| CIVL 2003 | Fluid Mechanics 10 |
| EART 2001 | Climate Change Science 10 |
| Credit Points | 40 |
| Spring session | |
| ENGR 2032 | Sustainability Analysis and Design 10 |
| CIVL 2002 | Environmental Engineering 10 |
| CIVL 2018 | Water Supply Systems Design 10 |
| CIVL 3011 | Hydraulics 10 |
| Credit Points | 40 |
| Year 4 | |
| Autumn session | |
| PROC 2003 | Materials Selection and Design 10 |
| CIVL 4017 | Surface Water Hydrology 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems 10 |
| BBus Major Subject 3 | 10 |
| Credit Points | 40 |
| Spring session | |
| ELEC 3010 | Renewable Energy Systems Design 10 |
| CIVL 3019 | Wastewater Systems Design 10 |
| CIVL 4021 | Sustainable Waste Engineering 10 |
| BBus Major Subject 4 | 10 |
| Industrial Experience | |
| ENGR 3017 | Industrial Experience (Engineering) 0 |
| Credit Points | 40 |
| Year 5 | |
| Autumn session | |
| ENGR 4041 | Final Year Project 1 (UG Engineering) 20 |
| ENGR 4034 | Climate Smart Engineering 10 |
| BBus Major Subject 5 | 10 |
| Credit Points | 40 |

Spring session

| | | |
|----------------------|---------------------------------------|----|
| ENGR 4042 | Final Year Project 2 (UG Engineering) | 20 |
| ENGR 4035 | Smart and Liveable Cities | 10 |
| BBus Major Subject 6 | | 10 |

Credit Points **40**

Year 6**Autumn session**

| | | |
|-----------------------------|--|----|
| BBus Major Subject 7 | | 10 |
| BBus Major Subject 8 | | 10 |
| BBus Professional Subject 3 | | 10 |
| BBus Professional Subject 4 | | 10 |

Credit Points **40**

Total Credit Points **440**

Mid-year intake

| Course | Title | Credit Points |
|-----------------------------|---|---------------|
| Year 1 | | |
| Spring session | | |
| MATH 1016 | Mathematics for Engineers 1 | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| BBus Core Subject 1 | | 10 |
| Credit Points | 40 | |
| Autumn session | | |
| MATH 1019 | Mathematics for Engineers 2 | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| BBus Core Subject 2 | | 10 |
| BBus Core Subject 3 | | 10 |
| Credit Points | 40 | |
| Year 2 | | |
| Spring session | | |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| BBus Core Subject 4 | | 10 |
| BBus Major Subject 1 | | 10 |
| Credit Points | 40 | |
| Autumn session | | |
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| BBus Major Subject 2 | | 10 |
| BBus Professional Subject 1 | | 10 |
| Credit Points | 40 | |
| Year 3 | | |
| Spring session | | |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| CIVL 2002 | Environmental Engineering | 10 |
| CIVL 3011 | Hydraulics | 10 |
| Credit Points | 40 | |
| Autumn session | | |
| PROC 2003 | Materials Selection and Design | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| CIVL 4017 | Surface Water Hydrology | 10 |

| | | |
|------------------------------|---------------------------------------|------------|
| EART 2001 | Climate Change Science | 10 |
| Credit Points | | 40 |
| Year 4 | | |
| Spring session | | |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| CIVL 3019 | Wastewater Systems Design | 10 |
| CIVL 4021 | Sustainable Waste Engineering | 10 |
| BBus Major Subject 3 | | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| ELEC 1006 | Engineering Computing | 10 |
| CIVL 1001 | Surveying for Engineers | 10 |
| BBus Major Subject 4 | | 10 |
| BBus Professional Subject 2 | | 10 |
| Industrial Experience | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| Credit Points | | 40 |
| Year 5 | | |
| Spring session | | |
| ENGR 4041 | Final Year Project 1 (UG Engineering) | 20 |
| ENGR 4035 | Smart and Liveable Cities | 10 |
| BBus Major Subject 5 | | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| ENGR 4042 | Final Year Project 2 (UG Engineering) | 20 |
| ENGR 4034 | Climate Smart Engineering | 10 |
| BBus Major Subject 6 | | 10 |
| Credit Points | | 40 |
| Year 6 | | |
| Spring session | | |
| BBus Major Subject 7 | | 10 |
| BBus Major Subject 8 | | 10 |
| BBus Professional Subject 3 | | 10 |
| BBus Professional Subject 4 | | 10 |
| Credit Points | | 40 |
| Total Credit Points | | 440 |

Bachelor of Engineering Science (3691)

Qualification for this award requires the successful completion of 240 credit points, which include the subjects listed in the recommended sequence below.

*** All students undertaking the Bachelor of Engineering Science are required to enrol in MATH 1021 Mathematics for Engineers Preliminary and undertake a readiness test at the beginning of their study.**

The readiness test will be conducted at the beginning of the first semester of enrolment and the result will be used to determine whether a student will remain in MATH 1021 Mathematics for Engineers Preliminary or be transferred by the School to MATH 1016 Mathematics for Engineers 1.

Students remaining in MATH 1021 Mathematics for Engineers Preliminary will be required to complete MATH 1016 Mathematics for Engineers 1 during second semester and will be encouraged to complete MATH 1019 Mathematics for Engineers 2 during the Summer session.

Students who finish MATH 1021 Mathematics for Engineers Preliminary will then use this subject as an elective.

Start-year intake

| Course | Title | Credit Points |
|---|---|---------------|
| Year 1 | | |
| Autumn session | | |
| ENGR 1011 | Engineering Physics | 10 |
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Select one of the following: | | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | |
| MATH 1016 | Mathematics for Engineers 1 | |
| Credit Points | | 40 |
| Spring session | | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Select one of the following: | | 10 |
| MATH 1016 | Mathematics for Engineers 1 | |
| MATH 1019 | Mathematics for Engineers 2 | |
| Credit Points | | 40 |
| Year 2 | | |
| Autumn session | | |
| ENGR 3029 | Specialisation Workshop 1 | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| EART 2001 | Climate Change Science | 10 |
| Credit Points | | 40 |
| Spring session | | |
| CIVL 3011 | Hydraulics | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| ENGR 3030 | Specialisation Workshop 2 | 10 |
| Credit Points | | 40 |
| Year 3 | | |
| Autumn session | | |
| ENGR 3013 | Engineering Science Project 1 | 10 |
| CIVL 4017 | Surface Water Hydrology | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| Select one elective | | 10 |
| • Elective must be Level 2 or higher (an exception applies for students completing Mathematics for Engineers Preliminary subject) | | |
| Credit Points | | 40 |
| Spring session | | |
| ENGR 3014 | Engineering Science Project 2 | 10 |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| Select one elective | | 10 |
| CIVL 4021 | Sustainable Waste Engineering | 10 |
| Elective must be Level 2 or higher (an exception applies for students completing Mathematics for Engineers Preliminary subject) | | |
| Industrial Experience | | |

| | | |
|----------------------------|--|------------|
| ENGR 2033 | Industrial Experience (Engineering Technologist) | 0 |
| Credit Points | | 40 |
| Total Credit Points | | 240 |

Mid-year intake

| Course | Title | Credit Points |
|--|---|---------------|
| Year 1 | | |
| Spring session | | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Select one of the following: | | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | |
| MATH 1016 | Mathematics for Engineers 1 | |
| Credit Points | | 40 |
| Autumn session | | |
| CIVL 2003 | Fluid Mechanics | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| Select one of the following: | | 10 |
| MATH 1016 | Mathematics for Engineers 1 | |
| MATH 1019 | Mathematics for Engineers 2 | |
| Credit Points | | 40 |
| Year 2 | | |
| Spring session | | |
| ENGR 3029 | Specialisation Workshop 1 | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| CIVL 3011 | Hydraulics | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| ENGR 3030 | Specialisation Workshop 2 | 10 |
| EART 2001 | Climate Change Science | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| Industrial Experience | | |
| ENGR 2033 | Industrial Experience (Engineering Technologist) | 0 |
| Credit Points | | 40 |
| Year 3 | | |
| Spring session | | |
| ENGR 3013 | Engineering Science Project 1 | 10 |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| Select one elective | | 10 |
| CIVL 4021 | Sustainable Waste Engineering | 10 |
| Electives must be Level 2 or higher (an exception applies for students completing Mathematics for Engineers Preliminary subject) | | |
| Credit Points | | 40 |
| Autumn session | | |
| ENGR 3014 | Engineering Science Project 2 | 10 |
| CIVL 4017 | Surface Water Hydrology | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| Select one elective | | 10 |

- Elective must be Level 2 or higher (an exception applies for students completing Mathematics for Engineers Preliminary subject)

| | |
|----------------------------|------------|
| Credit Points | 40 |
| Total Credit Points | 240 |

Major Sequence 2022-23

If you commenced in 2024 or later please refer to the Sequence 2024 tab for details.

This major is included in Bachelor of Engineering Science, Bachelor of Engineering (Honours), Bachelor of Engineering Advanced (Honours) and Bachelor of Engineering (Honours)/Bachelor of Business.

Please follow the recommended sequence for your course as noted below.

Select the link for your program below to see details of the major

Bachelor of Engineering (Honours)

Qualification for this award requires the successful completion of 320 credit points, which include the subjects listed in the recommended sequence below.

*** All students undertaking the Bachelor of Engineering (Honours) are required to enrol in MATH 1021 Mathematics for Engineers Preliminary and undertake a readiness test at the beginning of their study.**

The readiness test will be conducted at the beginning of the first semester of enrolment and the result will be used to determine whether a student will remain in MATH 1021 Mathematics for Engineers Preliminary or be transferred by the School to MATH 1016 Mathematics for Engineers 1.

Students remaining in MATH 1021 Mathematics for Engineers Preliminary will be required to complete MATH 1016 Mathematics for Engineers 1 during second semester and will be encouraged to complete MATH 1019 Mathematics for Engineers 2 during the Summer session.

Start-year intake

| Course | Title | Credit Points |
|---|---------------------------------------|---------------|
| Year 1 | | |
| Autumn session | | |
| ENGR 1011 | Engineering Physics | 10 |
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Select one of the following: | | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | |
| MATH 1016 | Mathematics for Engineers 1 | |
| Credit Points | | 40 |
| Spring session | | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| Select one elective | | 10 |
| • Elective can be any Level for Year 1 Elective | | |
| Select one of the following: | | 10 |
| MATH 1016 | Mathematics for Engineers 1 | |

| | | |
|---|---|------------|
| MATH 1019 | Mathematics for Engineers 2 | |
| Credit Points | | 40 |
| Year 2 | | |
| Autumn session | | |
| CIVL 1001 | Surveying for Engineers | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| EART 2001 | Climate Change Science | 10 |
| Credit Points | | 40 |
| Spring session | | |
| CIVL 3011 | Hydraulics | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| Select one elective | | 10 |
| • Elective must be Level 2 or higher | | |
| Credit Points | | 40 |
| Year 3 | | |
| Autumn session | | |
| CIVL 4017 | Surface Water Hydrology | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| One Alternate Subject | | 10 |
| Credit Points | | 40 |
| Spring session | | |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| CIVL 3019 | Wastewater Systems Design | 10 |
| CIVL 4021 | Sustainable Waste Engineering | 10 |
| One Alternate Subject | | 10 |
| Industrial Experience | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| Credit Points | | 40 |
| Year 4 | | |
| Autumn session | | |
| ENGR 4025 | Final Year Project 1 (UG Engineering) | 10 |
| ENGR 4034 | Climate Smart Engineering | 10 |
| One Alternate Subject | | 10 |
| Select one elective | | 10 |
| • Elective subject must be Level 2 or higher | | |
| Credit Points | | 40 |
| Spring session | | |
| ENGR 4035 | Smart and Liveable Cities | 10 |
| ENGR 4026 | Final Year Project 2 (UG Engineering) | 10 |
| One Alternate Subject | | 10 |
| Select one elective | | 10 |
| • Elective subjects must be Level 2 or higher | | |
| Credit Points | | 40 |
| Total Credit Points | | 320 |

Alternate Subjects

| Subject | Title | Credit Points |
|-----------|---------------------------------------|---------------|
| PROC 4001 | Advanced Materials Topics | 10 |
| PROC 4002 | Engineering Materials from Waste | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |

| | | |
|--|---|----|
| PROC 3008 | Materials Processing and Applications | 10 |
| ENGR 2035 | Modern Digital Design and Development | 10 |
| ENGR 3033 | Digital Manufacturing and IIoT | 10 |
| ENGR 4039 | Design for Advanced Manufacturing | 10 |
| HUMN 1013 | Contextualising Indigenous Australia (Day Mode) | 10 |
| Only three subjects may be chosen from the following | | |
| CEDS 3001 | Bridging the Gap: Re-engaging Indigenous Learners | 10 |
| PERF 2011 | From Corroborees to Curtain Raisers (Day Mode) | 10 |
| VISU 2003 | From Ochre to Acrylics to New Technologies | 10 |
| HUMN 1058 | Indigenous Landscapes | 10 |
| WELF 3008 | Learning through Indigenous Australian Community Service (Day Mode) | 10 |
| HUMN 2038 | Pigments of the Imagination | 10 |
| HUMN 2048 | Revaluing Indigenous Economics (Day Mode) | 10 |
| HUMN 3070 | Rethinking Research with Indigenous Australians: Independent Study Project (Day Mode) | 10 |
| HUMN 3082 | The Making of the 'Aborigines' | 10 |

Alternate subjects may be used to complete one of the minors listed below.

Indigenous Australian Studies, Minor (<https://hbook.westernsydney.edu.au/majors-minors/indigenous-australian-studies-minor/>)

Materials Engineering, Minor (<https://hbook.westernsydney.edu.au/majors-minors/materials-engineering-minor/>)

Advanced Manufacturing, Minor (<https://hbook.westernsydney.edu.au/majors-minors/advanced-manufacturing-minor/>)

Equivalent Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in Autumn 2022 or earlier.

ENGR 1008 - Engineering Materials, replaced by PROC 1008 - Introduction to Materials Engineering

Replaced Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2023 or earlier.

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste Engineering

Mid-year intake

| Course | Title | Credit Points |
|------------------------------|---------------------------------------|---------------|
| Year 1 | | |
| Spring session | | |
| Select one of the following: | | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | |
| MATH 1016 | Mathematics for Engineers 1 | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Credit Points | | 40 |

Autumn session

| | | |
|------------------------------|-----------------------------|----|
| Select one of the following: | | 10 |
| MATH 1016 | Mathematics for Engineers 1 | |
| MATH 1019 | Mathematics for Engineers 2 | |
| CIVL 2003 | Fluid Mechanics | 10 |

| | | |
|---|---|------------|
| ENGR 1011 | Engineering Physics | 10 |
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| Credit Points | | 40 |
| Year 2 | | |
| Spring session | | |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| CIVL 3011 | Hydraulics | 10 |
| Select one elective | | 10 |
| • Elective unit must be Level 2 or higher | | |
| Credit Points | | 40 |
| Autumn session | | |
| CIVL 1001 | Surveying for Engineers | 10 |
| EART 2001 | Climate Change Science | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| Select one elective | | 10 |
| • Elective unit must be Level 2 or higher | | |
| Credit Points | | 40 |
| Year 3 | | |
| Spring session | | |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| CIVL 3019 | Wastewater Systems Design | 10 |
| CIVL 4021 | Sustainable Waste Engineering | 10 |
| One alternate subject | | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| CIVL 4017 | Surface Water Hydrology | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| One alternate subject | | 10 |
| Industrial Experience | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| Credit Points | | 40 |
| Year 4 | | |
| Spring session | | |
| ENGR 4025 | Final Year Project 1 (UG Engineering) | 10 |
| ENGR 4035 | Smart and Liveable Cities | 10 |
| Select one elective | | 10 |
| One alternate subject | | 10 |
| • Elective unit must be Level 2 or higher | | |
| Credit Points | | 40 |
| Autumn session | | |
| ENGR 4026 | Final Year Project 2 (UG Engineering) | 10 |
| ENGR 4034 | Climate Smart Engineering | 10 |
| Select one elective | | 10 |
| One alternate subject | | 10 |
| • Elective unit must be Level 2 or higher | | |
| Credit Points | | 40 |
| Total Credit Points | | 320 |

Alternate Subjects

| Subject | Title | Credit Points |
|--|---|---------------|
| PROC 4001 | Advanced Materials Topics | 10 |
| PROC 4002 | Engineering Materials from Waste | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| PROC 3008 | Materials Processing and Applications | 10 |
| ENGR 2035 | Modern Digital Design and Development | 10 |
| ENGR 3033 | Digital Manufacturing and IIoT | 10 |
| ENGR 4039 | Design for Advanced Manufacturing | 10 |
| HUMN 1013 | Contextualising Indigenous Australia (Day Mode) | 10 |
| Only three subjects may be chosen from the following | | |
| CEDS 3001 | Bridging the Gap: Re-engaging Indigenous Learners | 10 |
| PERF 2011 | From Corroborees to Curtain Raisers (Day Mode) | 10 |
| VISU 2003 | From Ochre to Acrylics to New Technologies | 10 |
| HUMN 1058 | Indigenous Landscapes | 10 |
| WELF 3008 | Learning through Indigenous Australian Community Service (Day Mode) | 10 |
| HUMN 2038 | Pigments of the Imagination | 10 |
| HUMN 2048 | Revaluating Indigenous Economics (Day Mode) | 10 |
| HUMN 3070 | Rethinking Research with Indigenous Australians: Independent Study Project (Day Mode) | 10 |
| HUMN 3082 | The Making of the 'Aborigines' | 10 |

Alternate subjects may be used to complete one of the minors listed below.

Indigenous Australian Studies, Minor (<https://hbook.westernsydney.edu.au/majors-minors/indigenous-australian-studies-minor/>)

Materials Engineering, Minor (<https://hbook.westernsydney.edu.au/majors-minors/materials-engineering-minor/>)

Advanced Manufacturing, Minor (<https://hbook.westernsydney.edu.au/majors-minors/advanced-manufacturing-minor/>)

Equivalent Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in Autumn 2022 or earlier.

ENGR 1008 - Engineering Materials, replaced by PROC 1008 - Introduction to Materials Engineering

Replaced Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2023 or earlier.

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste Engineering

Bachelor of Engineering Advanced (Honours)

Qualification for this award requires the successful completion of 320 credit points, which include the subjects listed in the recommended sequence below.

Start-year intake

| Course | Title | Credit Points |
|--|---|---------------|
| Year 1 | | |
| Autumn session | | |
| MATH 1034 | Mathematics for Engineers 1 (Advanced) | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| ENGR 1047 | Advanced Engineering Physics 1 | 10 |
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| Credit Points | | 40 |
| Spring session | | |
| MATH 1035 | Mathematics for Engineers 2 (Advanced) | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| Select one elective | | 10 |
| • Elective can be any Level for Year 1 | | |
| Credit Points | | 40 |
| Year 2 | | |
| Autumn session | | |
| CIVL 1001 | Surveying for Engineers | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| ENGR 1045 | Engineering Programming Fundamentals | 10 |
| EART 2001 | Climate Change Science | 10 |
| Credit Points | | 40 |
| Spring session | | |
| CIVL 3011 | Hydraulics | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| Select one elective | | 10 |
| • Electives must be Level 2 or higher | | |
| Students who fail to maintain a minimum GPA of 5.0 at the end of completion of 160 Credit Points, and again at the completion of 200 Credit points will be automatically transferred to the B. Engineering (Honours) (3740) program. | | |
| Credit Points | | 40 |
| Year 3 | | |
| Autumn session | | |
| CIVL 4017 | Surface Water Hydrology | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| One Alternate Subject | | 10 |
| Credit Points | | 40 |
| Spring session | | |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| CIVL 3019 | Wastewater Systems Design | 10 |
| CIVL 4021 | Sustainable Waste Engineering | 10 |
| One Alternate Subject | | 10 |
| Industrial Experience | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| Credit Points | | 40 |
| Year 4 | | |
| Autumn session | | |
| ENGR 4037 | Advanced Engineering Thesis 1: Preliminary Investigations | 10 |

| | | |
|---|--|------------|
| ENGR 4034 | Climate Smart Engineering | 10 |
| One Alternate Subject | | 10 |
| Select one elective | | 10 |
| • Elective unit must be Level 2 or higher | | |
| Credit Points | | 40 |
| Spring session | | |
| ENGR 4036 | Advanced Engineering Thesis 2: Detailed Investigations | 10 |
| ENGR 4035 | Smart and Liveable Cities | 10 |
| One Alternate subject | | 10 |
| Select one elective | | 10 |
| • Elective subjects must be Level 2 or higher | | |
| Credit Points | | 40 |
| Total Credit Points | | 320 |

Alternate Subjects

| Subject | Title | Credit Points |
|--|---|---------------|
| PROC 4001 | Advanced Materials Topics | 10 |
| PROC 4002 | Engineering Materials from Waste | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| PROC 3008 | Materials Processing and Applications | 10 |
| ENGR 2035 | Modern Digital Design and Development | 10 |
| ENGR 3033 | Digital Manufacturing and IIoT | 10 |
| ENGR 4039 | Design for Advanced Manufacturing | 10 |
| HUMN 1013 | Contextualising Indigenous Australia (Day Mode) | 10 |
| Only three subjects may be chosen from the following | | |
| CEDS 3001 | Bridging the Gap: Re-engaging Indigenous Learners | 10 |
| PERF 2011 | From Corroborees to Curtain Raisers (Day Mode) | 10 |
| VISU 2003 | From Ochre to Acrylics to New Technologies | 10 |
| HUMN 1058 | Indigenous Landscapes | 10 |
| WELF 3008 | Learning through Indigenous Australian Community Service (Day Mode) | 10 |
| HUMN 2038 | Pigments of the Imagination | 10 |
| HUMN 2048 | Revaluing Indigenous Economics (Day Mode) | 10 |
| HUMN 3070 | Rethinking Research with Indigenous Australians: Independent Study Project (Day Mode) | 10 |
| HUMN 3082 | The Making of the 'Aborigines' | 10 |

Alternate subjects may be used to complete one of the minors listed below.

Indigenous Australian Studies, Minor (<https://hbook.westernsydney.edu.au/majors-minors/indigenous-australian-studies-minor/>)
 Materials Engineering, Minor (<https://hbook.westernsydney.edu.au/majors-minors/materials-engineering-minor/>)
 Advanced Manufacturing, Minor (<https://hbook.westernsydney.edu.au/majors-minors/advanced-manufacturing-minor/>)

Equivalent Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2021 or earlier.

MECH 4005 Advanced Engineering Thesis 1: Preliminary Investigations, replaced by ENGR 4037 Advanced Engineering Thesis 1: Preliminary Investigations

MECH 4006 Advanced Engineering Thesis 2: Detailed Investigations, replaced by ENGR 4036 Advanced Engineering Thesis 2: Detailed Investigations

The subjects listed below count towards completion of this program for students who passed these subjects in Autumn 2022 or earlier.

ENGR 1008 - Engineering Materials, replaced by PROC 1008 - Introduction to Materials Engineering

Replaced Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2023 or earlier.

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste Engineering

Mid-year intake

| Course | Title | Credit Points |
|--|--|---------------|
| Year 1 | | |
| Spring session | | |
| MATH 1034 | Mathematics for Engineers 1 (Advanced) | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| MATH 1035 | Mathematics for Engineers 2 (Advanced) | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| ENGR 1047 | Advanced Engineering Physics 1 | 10 |
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| Credit Points | | 40 |
| Year 2 | | |
| Spring session | | |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| CIVL 3011 | Hydraulics | 10 |
| Select one elective | | 10 |
| • Elective must be Level 2 or higher | | |
| Credit Points | | 40 |
| Autumn session | | |
| CIVL 1001 | Surveying for Engineers | 10 |
| EART 2001 | Climate Change Science | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| Select one elective | | 10 |
| • Elective must be Level 2 or higher | | |
| Credit Points | | 40 |
| Students who fail to maintain a minimum GPA of 5.0 at the end of completion of 160 Credit Points, and again at the completion of 200 Credit points will be automatically transferred to the B. Engineering (Honours) (3740) program. | | |
| Credit Points | | 40 |
| Year 3 | | |
| Spring session | | |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| CIVL 3019 | Wastewater Systems Design | 10 |
| CIVL 4021 | Sustainable Waste Engineering | 10 |

| | | |
|--------------------------------------|---|-----|
| One alternate subject | | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| CIVL 4017 | Surface Water Hydrology | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| One alternate subject | | 10 |
| Industrial Experience | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| Credit Points | | 40 |
| Year 4 | | |
| Spring session | | |
| ENGR 4037 | Advanced Engineering Thesis 1: Preliminary Investigations | 10 |
| ENGR 4035 | Smart and Liveable Cities | 10 |
| One alternate subject | | 10 |
| Select one elective | | 10 |
| • Elective must be Level 2 or higher | | |
| Credit Points | | 40 |
| Autumn session | | |
| ENGR 4036 | Advanced Engineering Thesis 2: Detailed Investigations | 10 |
| ENGR 4034 | Climate Smart Engineering | 10 |
| One alternate subject | | 10 |
| Select one elective | | 10 |
| • Elective must be Level 2 or higher | | |
| Credit Points | | 40 |
| Total Credit Points | | 320 |

Alternate Subjects

| Subject | Title | Credit Points |
|--|---|---------------|
| PROC 4001 | Advanced Materials Topics | 10 |
| PROC 4002 | Engineering Materials from Waste | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| PROC 3008 | Materials Processing and Applications | 10 |
| ENGR 2035 | Modern Digital Design and Development | 10 |
| ENGR 3033 | Digital Manufacturing and IIoT | 10 |
| ENGR 4039 | Design for Advanced Manufacturing | 10 |
| HUMN 1013 | Contextualising Indigenous Australia (Day Mode) | 10 |
| Only three subjects may be chosen from the following | | |
| CEDS 3001 | Bridging the Gap: Re-engaging Indigenous Learners | 10 |
| PERF 2011 | From Corroborees to Curtain Raisers (Day Mode) | 10 |
| VISU 2003 | From Ochre to Acrylics to New Technologies | 10 |
| HUMN 1058 | Indigenous Landscapes | 10 |
| WELF 3008 | Learning through Indigenous Australian Community Service (Day Mode) | 10 |
| HUMN 2038 | Pigments of the Imagination | 10 |
| HUMN 2048 | Revaluing Indigenous Economics (Day Mode) | 10 |
| HUMN 3070 | Rethinking Research with Indigenous Australians: Independent Study Project (Day Mode) | 10 |
| HUMN 3082 | The Making of the 'Aborigines' | 10 |

Alternate subjects may be used to complete one of the minors listed below.

Indigenous Australian Studies, Minor (<https://hbook.westernsydney.edu.au/majors-minors/indigenous-australian-studies-minor/>)

Materials Engineering, Minor (<https://hbook.westernsydney.edu.au/majors-minors/materials-engineering-minor/>)

Advanced Manufacturing, Minor (<https://hbook.westernsydney.edu.au/majors-minors/advanced-manufacturing-minor/>)

Equivalent Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2021 or earlier.

MECH 4005 Advanced Engineering Thesis 1: Preliminary Investigations, replaced by ENGR 4037 Advanced Engineering Thesis 1: Preliminary Investigations

MECH 4006 Advanced Engineering Thesis 2: Detailed Investigations, replaced by ENGR 4036 Advanced Engineering Thesis 2: Detailed Investigations

The subjects listed below count towards completion of this program for students who passed these subjects in Autumn 2022 or earlier.

ENGR 1008 - Engineering Materials, replaced by PROC 1008 - Introduction to Materials Engineering

Replaced Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2023 or earlier.

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste Engineering

Bachelor of Engineering (Honours)/ Bachelor of Business (3728)

Qualification for this award requires the successful completion of 400 credit points, which include the subjects listed in the recommended sequence below.

Start-year intake

| Course | Title | Credit Points |
|-----------------------------|--------------------------------------|---------------|
| Year 1 | | |
| Autumn session | | |
| MATH 1016 | Mathematics for Engineers 1 | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| BBus Core Subject 1 | | 10 |
| BBus Core Subject 2 | | 10 |
| Credit Points | | 40 |
| Spring session | | |
| MATH 1019 | Mathematics for Engineers 2 | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| BBus Core Subject 3 | | 10 |
| BBus Core Subject 4 | | 10 |
| Credit Points | | 40 |
| Year 2 | | |
| Autumn session | | |
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| BBus Professional Subject 1 | | 10 |

| | | |
|------------------------------|---|------------|
| BBus Professional Subject 2 | | 10 |
| BBus Major Subject 1 | | 10 |
| Credit Points | | 40 |
| Spring session | | |
| ELEC 1003 | Electrical Fundamentals | 10 |
| CIVL 4021 | Sustainable Waste Engineering | 10 |
| BBus Major Subject 2 | | 10 |
| BBus Major Subject 3 | | 10 |
| Credit Points | | 40 |
| Year 3 | | |
| Autumn session | | |
| CIVL 1001 | Surveying for Engineers | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| EART 2001 | Climate Change Science | 10 |
| Credit Points | | 40 |
| Spring session | | |
| CIVL 3011 | Hydraulics | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| CIVL 3019 | Wastewater Systems Design | 10 |
| Credit Points | | 40 |
| Year 4 | | |
| Autumn session | | |
| CIVL 4017 | Surface Water Hydrology | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| BBus Major Subject 4 | | 10 |
| Credit Points | | 40 |
| Spring session | | |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| BBus Major Subject 5 | | 10 |
| BBus Major Subject 6 | | 10 |
| BBus Major Subject 7 | | 10 |
| Credit Points | | 40 |
| Year 5 | | |
| Autumn session | | |
| ENGR 4025 | Final Year Project 1 (UG Engineering) | 10 |
| ENGR 4034 | Climate Smart Engineering | 10 |
| BBus Professional Subject 3 | | 10 |
| BBus Major Subject 8 | | 10 |
| Credit Points | | 40 |
| Spring session | | |
| ENGR 4026 | Final Year Project 2 (UG Engineering) | 10 |
| ENGR 4035 | Smart and Liveable Cities | 10 |
| EART 3005 | Statistical Hydrology | 10 |
| BBus Professional Subject 4 | | 10 |
| Industrial Experience | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| Credit Points | | 40 |
| Total Credit Points | | 400 |

Replaced Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2023 or earlier.

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste Engineering

Mid-year intake

| Course | Title | Credit Points |
|-----------------------------|--------------------------------------|---------------|
| Year 1 | | |
| Spring session | | |
| MATH 1016 | Mathematics for Engineers 1 | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| BBus Core Subject 1 | | 10 |
| BBus Core Subject 2 | | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| MATH 1019 | Mathematics for Engineers 2 | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| BBus Core Subject 3 | | 10 |
| BBus Core Subject 4 | | 10 |
| Credit Points | | 40 |
| Year 2 | | |
| Spring session | | |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| BBus Major Subject 1 | | 10 |
| BBus Major Subject 2 | | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| CIVL 2003 | Fluid Mechanics | 10 |
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| BBus Professional Subject 1 | | 10 |
| BBus Major Subject 3 | | 10 |
| Credit Points | | 40 |
| Year 3 | | |
| Spring session | | |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| CIVL 3011 | Hydraulics | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| CIVL 3019 | Wastewater Systems Design | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| ELEC 1006 | Engineering Computing | 10 |
| EART 2001 | Climate Change Science | 10 |
| CIVL 1001 | Surveying for Engineers | 10 |
| BBus Professional Subject 2 | | 10 |
| Credit Points | | 40 |
| Year 4 | | |
| Spring session | | |
| CIVL 4021 | Sustainable Waste Engineering | 10 |
| BBus Major Subject 4 | | 10 |
| BBus Major Subject 5 | | 10 |
| BBus Major Subject 6 | | 10 |
| Credit Points | | 40 |

Autumn session

| | | |
|------------------------------|---|-----------|
| CIVL 4017 | Surface Water Hydrology | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| BBus Major Subject 7 | | 10 |
| Industrial Experience | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| Credit Points | | 40 |

Year 5

| | | |
|-----------------------------|---------------------------------------|-----------|
| Spring session | | |
| ENGR 4025 | Final Year Project 1 (UG Engineering) | 10 |
| ENGR 4035 | Smart and Liveable Cities | 10 |
| EART 3005 | Statistical Hydrology | 10 |
| BBus Professional Subject 3 | | 10 |
| Credit Points | | 40 |

Autumn session

| | | |
|-----------------------------|---------------------------------------|------------|
| ENGR 4026 | Final Year Project 2 (UG Engineering) | 10 |
| ENGR 4034 | Climate Smart Engineering | 10 |
| BBus Professional Subject 4 | | 10 |
| BBus Major Subject 8 | | 10 |
| Credit Points | | 40 |
| Total Credit Points | | 400 |

Replaced Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2023 or earlier.

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste Engineering

Bachelor of Engineering Science

Qualification for this award requires the successful completion of 240 credit points, which include the subjects listed in the recommended sequence below.

*** All students undertaking the Bachelor of Engineering Science are required to enrol in MATH 1021 Mathematics for Engineers Preliminary and undertake a readiness test at the beginning of their study.**

The readiness test will be conducted at the beginning of the first semester of enrolment and the result will be used to determine whether a student will remain in MATH 1021 Mathematics for Engineers Preliminary or be transferred by the School to MATH 1016 Mathematics for Engineers 1.

Students remaining in MATH 1021 Mathematics for Engineers Preliminary will be required to complete MATH 1016 Mathematics for Engineers 1 during second semester and will be encouraged to complete MATH 1019 Mathematics for Engineers 2 during the Summer session.

Students who finish MATH 1021 Mathematics for Engineers Preliminary will then use this subject as an elective.

Start-year intake

| Course | Title | Credit Points |
|-----------------------|---------------------|---------------|
| Year 1 | | |
| Autumn session | | |
| ENGR 1011 | Engineering Physics | 10 |

| | | |
|--|---|------------|
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Select one of the following: | | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | |
| MATH 1016 | Mathematics for Engineers 1 | |
| Credit Points | | 40 |
| Spring session | | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| Select one elective | | 10 |
| • Elective can be any Level for Year 1 | | |
| Select one of the following: | | 10 |
| MATH 1016 | Mathematics for Engineers 1 | |
| MATH 1019 | Mathematics for Engineers 2 | |
| Credit Points | | 40 |
| Year 2 | | |
| Autumn session | | |
| ENGR 3029 | Specialisation Workshop 1 | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| EART 2001 | Climate Change Science | 10 |
| Credit Points | | 40 |
| Spring session | | |
| CIVL 3011 | Hydraulics | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| ENGR 3030 | Specialisation Workshop 2 | 10 |
| Credit Points | | 40 |
| Year 3 | | |
| Autumn session | | |
| ENGR 3013 | Engineering Science Project 1 | 10 |
| CIVL 4017 | Surface Water Hydrology | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| Select one elective | | 10 |
| • Elective must be Level 2 or higher | | |
| Credit Points | | 40 |
| Spring session | | |
| ENGR 3014 | Engineering Science Project 2 | 10 |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| CIVL 3019 | Wastewater Systems Design | 10 |
| CIVL 4021 | Sustainable Waste Engineering | 10 |
| Industrial Experience | | |
| ENGR 2033 | Industrial Experience (Engineering Technologist) | 0 |
| Credit Points | | 40 |
| Total Credit Points | | 240 |

Replaced Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2023 or earlier.

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste Engineering

Mid-year intake

| Course | Title | Credit Points |
|--------------------------------------|---|---------------|
| Year 1 | | |
| Spring session | | |
| Select one of the following: | | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | |
| MATH 1016 | Mathematics for Engineers 1 | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| Select one of the following: | | 10 |
| MATH 1016 | Mathematics for Engineers 1 | |
| MATH 1019 | Mathematics for Engineers 2 | |
| CIVL 2003 | Fluid Mechanics | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| ENGR 1050 | Sustainable Engineering Fundamentals | 10 |
| Credit Points | | 40 |
| Year 2 | | |
| Spring session | | |
| ENGR 3029 | Specialisation Workshop 1 | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |
| CIVL 3011 | Hydraulics | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| ENGR 3030 | Specialisation Workshop 2 | 10 |
| EART 2001 | Climate Change Science | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| Select one elective | | 10 |
| • Elective must be Level 2 or higher | | |
| Industrial Experience | | |
| ENGR 2033 | Industrial Experience (Engineering Technologist) | 0 |
| Credit Points | | 40 |
| Year 3 | | |
| Spring session | | |
| ENGR 3013 | Engineering Science Project 1 | 10 |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| CIVL 3019 | Wastewater Systems Design | 10 |
| CIVL 4021 | Sustainable Waste Engineering | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| ENGR 3014 | Engineering Science Project 2 | 10 |
| CIVL 4017 | Surface Water Hydrology | 10 |
| ENVL 3005 | Planning the City: Development, Community and Systems | 10 |
| Select one elective | | 10 |
| • Elective must be Level 2 or higher | | |
| Credit Points | | 40 |
| Total Credit Points | | 240 |

Replaced Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2023 or earlier.

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste Engineering

Related Programs

Bachelor of Engineering (Honours)/Bachelor of Business (3728) (<https://hbook.westernsydney.edu.au/programs/bachelor-engineering-honours-bachelor-business/>)

Bachelor of Engineering (Honours) (3740) (<https://hbook.westernsydney.edu.au/programs/bachelor-engineering-honours/>)

Bachelor of Engineering Advanced (Honours) (3771) (<https://hbook.westernsydney.edu.au/programs/bachelor-engineering-advanced-honours/>)

Bachelor of Engineering Science (3691) (<https://hbook.westernsydney.edu.au/programs/bachelor-engineering-science/>)