

CIVIL ENGINEERING, TESTAMUR MAJOR (T131)

Western Sydney University Major Code: T131

Previous Code: MT3051.1

Available to students in other Western Sydney University programs?
No

Civil engineering covers the fields of structural design, geotechnical engineering and water engineering, together with infrastructure design and environmental engineering. Graduates may pursue career paths in the fields of design, construction and management of engineering structures and be associated with private industry, government departments, or in city, municipal or shire councils. These career paths may include engineering projects related to residential and commercial buildings, highways and airports, water supply and sewerage schemes, etc. This major includes a mandatory 300 to 450 hour industrial placement as a completion requirement.

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) |
| Sydney City Campus | Internal | Peter Lendrum (https://directory.westernsydney.edu.au/search/email/p.lendrum@city.westernsydney.edu.au) |

Recommended Sequence

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 Advanced (Honours)

This Major will be offered at Engineering Innovation Hub – Hassall St, Parramatta City Campus.

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 1047 | Advanced Engineering Physics 1 | 10 |

| | | |
|----------------------|--------------------------------------|-----------|
| ELEC 1006 | Engineering Computing | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Credit Points | | 40 |

Spring session

| | | |
|--------------------------------------|--|-----------|
| MATH 1035 | Mathematics for Engineers 2 (Advanced) | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Select one elective | | 10 |
| • Elective must be Level 1 or higher | | |
| Credit Points | | 40 |

Year 2

Autumn session

| | | |
|----------------------|-------------------------|-----------|
| CIVL 1001 | Surveying for Engineers | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| CIVL 2012 | Soil Mechanics | 10 |
| Credit Points | | 40 |

Spring session

| | | |
|-----------|--|----|
| ENGR 2016 | Pavement Materials and Design | 10 |
| CIVL 2007 | Introduction to Structural Engineering | 10 |
| CIVL 2002 | Environmental Engineering | 10 |
| CIVL 3011 | Hydraulics | 10 |

Students may transfer to 3740 Bachelor of Engineering (Honours) or 3691 Bachelor of Engineering Science at the end of Year 2 of study.

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 3014 | Structural Analysis | 10 |
| CIVL 4017 | Surface Water Hydrology | 10 |
| CIVL 3002 | Concrete Structures (UG) | 10 |
| One Alternate subject | | 10 |
| Credit Points | | 40 |

Spring session

| | | |
|-----------------------|----------------------------------|----|
| CIVL 3012 | Steel Structures | 10 |
| CIVL 3007 | Engineering Geomechanics | 10 |
| ENGR 3020 | Numerical Methods in 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 |
| One Alternate Subject | | 10 |
| Select two electives | | 20 |
| • Elective subjects must be Level 2 or higher | | |
| Credit Points | | 40 |

Spring session

| | | |
|-----------|---------------------------|----|
| ENGR 4035 | Smart and Liveable Cities | 10 |
|-----------|---------------------------|----|

| | | |
|---|--|------------|
| ENGR 4036 | Advanced Engineering Thesis 2: Detailed Investigations | 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 |
|-----------|-------------------------------|---------------|
| ENGR 3001 | Advanced Engineering Topic 1 | 10 |
| ENGR 4001 | Advanced Engineering Topic 2 | 10 |
| CIVL 4001 | Applied Mechanics | 10 |
| CIVL 3022 | Bridge Embankment Design | 10 |
| CIVL 3021 | Bridge Engineering Design | 10 |
| CIVL 4002 | Composite Structures | 10 |
| CIVL 3010 | Highway Infrastructure | 10 |
| CIVL 3018 | Hydrogeology | 10 |
| CIVL 4008 | Pile Foundations | 10 |
| EART 3005 | Statistical Hydrology | 10 |
| CIVL 3020 | Sustainable Waste Engineering | 10 |
| CIVL 4009 | Timber Structures (UG) | 10 |
| CIVL 4012 | Water Resource Engineering | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |

Optional Electives

| Subject | Title | Credit Points |
|-----------|---------------------------------|---------------|
| BLDG 4006 | Modern Construction Enterprises | 10 |
| BLDG 4007 | Modern Construction Projects | 10 |

The following subject is an optional elective subject offered to students who are engaged in a School approved project. This subject can be taken during the third year of this program, however, permission is required to enrol in the subject.

| | | |
|-----------|---------------------------|----|
| ENGR 3022 | Special Technical Project | 10 |
|-----------|---------------------------|----|

Minors

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

Geotechnical, Minor (<https://hbook.westernsydney.edu.au/archives/2022-2023/majors-minors/geotechnical-minor/>)

Structures, Minor (<https://hbook.westernsydney.edu.au/archives/2022-2023/majors-minors/structures-minor/>)

Water and Environment, Minor (<https://hbook.westernsydney.edu.au/archives/2022-2023/majors-minors/water-environment-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

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 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| MATH 1035 | Mathematics for Engineers 2 (Advanced) | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| ENGR 1047 | Advanced Engineering Physics 1 | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| Credit Points | | 40 |
| Year 2 | | |
| Spring session | | |
| CIVL 2007 | Introduction to Structural Engineering | 10 |
| CIVL 2002 | Environmental Engineering | 10 |
| ENGR 2016 | Pavement Materials and Design | 10 |
| Select one elective | | 10 |
| • Elective unit must be Level 2 or higher | | |
| Credit Points | | 40 |
| Autumn session | | |
| CIVL 3014 | Structural Analysis | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| CIVL 2012 | Soil Mechanics | 10 |
| select one elective (level 2 or higher) | | 10 |
| Students may transfer to 3740 Bachelor of Engineering (Honours) or 3691 Bachelor of Engineering Science at the end of Year 2 of study. | | |
| 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 | | |
| CIVL 3012 | Steel Structures | 10 |
| ENGR 3020 | Numerical Methods in Engineering | 10 |
| CIVL 3011 | Hydraulics | 10 |
| One Alternate subject | | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| CIVL 1001 | Surveying for Engineers | 10 |
| CIVL 4017 | Surface Water Hydrology | 10 |
| CIVL 3002 | Concrete Structures (UG) | 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 |
| CIVL 3007 | Engineering Geomechanics | 10 |
| One Alternate subject | | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| ENGR 4036 | Advanced Engineering Thesis 2: Detailed Investigations | 10 |
| One Alternate subject | | 10 |
| Select two electives | | 20 |
| • Elective unit must be Level 2 or higher | | |
| Credit Points | | 40 |
| Total Credit Points | | 320 |

Alternate Subjects

| Subject | Title | Credit Points |
|-----------|-------------------------------|---------------|
| ENGR 3001 | Advanced Engineering Topic 1 | 10 |
| ENGR 4001 | Advanced Engineering Topic 2 | 10 |
| CIVL 4001 | Applied Mechanics | 10 |
| CIVL 3022 | Bridge Embankment Design | 10 |
| CIVL 3021 | Bridge Engineering Design | 10 |
| CIVL 4002 | Composite Structures | 10 |
| CIVL 3010 | Highway Infrastructure | 10 |
| CIVL 3018 | Hydrogeology | 10 |
| CIVL 4008 | Pile Foundations | 10 |
| EART 3005 | Statistical Hydrology | 10 |
| CIVL 3020 | Sustainable Waste Engineering | 10 |
| CIVL 4009 | Timber Structures (UG) | 10 |
| CIVL 4012 | Water Resource Engineering | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |

Optional Electives

| Subject | Title | Credit Points |
|-----------|---------------------------------|---------------|
| BLDG 4006 | Modern Construction Enterprises | 10 |
| BLDG 4007 | Modern Construction Projects | 10 |

The following subject is an optional elective subject offered to students who are engaged in a School approved project. This subject can be taken during the third year of this program, however, permission is required to enrol in the subject.

| | | |
|-----------|---------------------------|----|
| ENGR 3022 | Special Technical Project | 10 |
|-----------|---------------------------|----|

Minors

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

Geotechnical, Minor (<https://hbook.westernsydney.edu.au/archives/2022-2023/majors-minors/geotechnical-minor/>)

Structures, Minor (<https://hbook.westernsydney.edu.au/archives/2022-2023/majors-minors/structures-minor/>)

Water and Environment, Minor (<https://hbook.westernsydney.edu.au/archives/2022-2023/majors-minors/water-environment-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

Bachelor of Engineering Science

This Major will be offered at Parramatta, Penrith and Sydney City campuses.

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 | | |
| ELEC 1006 | Engineering Computing | 10 |
| ENGR 1011 | Engineering Physics | 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 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Select one elective | | 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 |
| MECH 2003 | Mechanics of Materials | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| ENGR 3029 | Specialisation Workshop 1 | 10 |
| Credit Points | | 40 |
| Spring session | | |
| ENGR 2016 | Pavement Materials and Design | 10 |
| CIVL 2007 | Introduction to Structural Engineering | 10 |
| CIVL 3011 | Hydraulics | 10 |
| ENGR 3030 | Specialisation Workshop 2 | 10 |
| Credit Points | | 40 |
| Year 3 | | |
| Autumn session | | |
| CIVL 3014 | Structural Analysis | 10 |
| CIVL 3002 | Concrete Structures (UG) | 10 |
| ENGR 3013 | Engineering Science Project 1 | 10 |
| CIVL 2012 | Soil Mechanics | 10 |
| Credit Points | | 40 |
| Spring session | | |
| CIVL 3012 | Steel Structures | 10 |
| ENGR 3014 | Engineering Science Project 2 | 10 |
| CIVL 2002 | Environmental Engineering | 10 |
| Select one elective | | 10 |
| • Elective must be Level 2 or higher | | |
| Industrial Experience | | |
| ENGR 2033 | Industrial Experience (Engineering Technologist) | 0 |
| Credit Points | | 40 |
| Total Credit Points | | 240 |

Optional Elective

The following subject is an optional elective unit offered to students who are engaged in a School approved project. This subject can be taken during the third year of this program, however, permission is required to enrol in the subject.

ENGR 3022 Special Technical Project

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

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 |
| PROC 1008 | Introduction to Materials Engineering | 10 |

| | | |
|---|--------------------------------------|-----------|
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| Select one of the following: | | 10 |
| MATH 1019 | Mathematics for Engineers 2 | |
| MATH 1016 | Mathematics for Engineers 1 | |
| MECH 2003 | Mechanics of Materials | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| Select one elective | | 10 |
| • Elective unit must be Level 1 or higher | | |
| Credit Points | | 40 |

Year 2

| | | |
|-----------------------|--|-----------|
| Spring session | | |
| CIVL 2007 | Introduction to Structural Engineering | 10 |
| CIVL 2002 | Environmental Engineering | 10 |
| ENGR 2016 | Pavement Materials and Design | 10 |
| ENGR 3029 | Specialisation Workshop 1 | 10 |
| Credit Points | | 40 |

Autumn session

| | | |
|----------------------|---------------------------|-----------|
| CIVL 3014 | Structural Analysis | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| ENGR 3030 | Specialisation Workshop 2 | 10 |
| Credit Points | | 40 |

Year 3

| | | |
|-----------------------|-------------------------------|----|
| Spring session | | |
| CIVL 3012 | Steel Structures | 10 |
| CIVL 3011 | Hydraulics | 10 |
| ENGR 3013 | Engineering Science Project 1 | 10 |
| Select one elective | | 10 |

*Elective subjects must be level 2 or higher (an exception applies for students completing Mathematics for Engineers Preliminary subject)

Credit Points **40**

Autumn session

| | | |
|-----------|-------------------------------|----|
| CIVL 1001 | Surveying for Engineers | 10 |
| CIVL 2012 | Soil Mechanics | 10 |
| CIVL 3002 | Concrete Structures (UG) | 10 |
| ENGR 3014 | Engineering Science Project 2 | 10 |

Industrial Experience

| | | |
|-----------|--|---|
| ENGR 2033 | Industrial Experience (Engineering Technologist) | 0 |
|-----------|--|---|

Credit Points **40**

Total Credit Points **240**

Optional Elective

The following subject is an optional elective unit offered to students who are engaged in a School approved project. This subject can be taken during the third year of this program, however, permission is required to enrol in the subject.

ENGR 3022 Special Technical Project

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

Bachelor of Engineering (Honours)

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

Start-year intake

| Course | Title | Credit Points |
|---|--|---------------|
| Year 1 | | |
| Autumn session | | |
| ELEC 1006 | Engineering Computing | 10 |
| ENGR 1011 | Engineering Physics | 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 | | |
| Select one of the following: | | 10 |
| MATH 1019 | Mathematics for Engineers 2 | |
| MATH 1016 | Mathematics for Engineers 1 | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Select one elective | | 10 |
| • Elective unit must be Level 1 or higher | | |
| Credit Points | | 40 |
| Year 2 | | |
| Autumn session | | |
| CIVL 1001 | Surveying for Engineers | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| CIVL 2012 | Soil Mechanics | 10 |
| Credit Points | | 40 |
| Spring session | | |
| ENGR 2016 | Pavement Materials and Design | 10 |
| CIVL 2007 | Introduction to Structural Engineering | 10 |
| CIVL 2002 | Environmental Engineering | 10 |
| CIVL 3011 | Hydraulics | 10 |
| Credit Points | | 40 |
| Year 3 | | |
| Autumn session | | |
| CIVL 3014 | Structural Analysis | 10 |
| CIVL 4017 | Surface Water Hydrology | 10 |
| CIVL 3002 | Concrete Structures (UG) | 10 |
| One Alternate subject | | 10 |
| Credit Points | | 40 |
| Spring session | | |
| CIVL 3012 | Steel Structures | 10 |
| CIVL 3007 | Engineering Geomechanics | 10 |
| ENGR 3020 | Numerical Methods in 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 |
| One Alternate subject | | 10 |
| Select two electives | | 20 |

*Elective subjects must be level 2 or higher (an exception applies for students completing Mathematics for Engineers Preliminary subject)

Credit Points **40**

Spring session

| | | |
|-------------------------|---------------------------------------|----|
| ENGR 4026 | Final Year Project 2 (UG Engineering) | 10 |
| ENGR 4011 | Sustainability and Risk Engineering | 10 |
| Major Alternate Subject | | 10 |
| Select one elective | | 10 |

*Elective subjects must be level 2 or higher (an exception applies for students completing Mathematics for Engineers Preliminary subject)

Credit Points **40**

Total Credit Points **320**

Alternate Subjects

| Subject | Title | Credit Points |
|-----------|-------------------------------|---------------|
| ENGR 3001 | Advanced Engineering Topic 1 | 10 |
| ENGR 4001 | Advanced Engineering Topic 2 | 10 |
| CIVL 4001 | Applied Mechanics | 10 |
| CIVL 3022 | Bridge Embankment Design | 10 |
| CIVL 3021 | Bridge Engineering Design | 10 |
| CIVL 4002 | Composite Structures | 10 |
| CIVL 3010 | Highway Infrastructure | 10 |
| CIVL 3018 | Hydrogeology | 10 |
| CIVL 4008 | Pile Foundations | 10 |
| EART 3005 | Statistical Hydrology | 10 |
| CIVL 3020 | Sustainable Waste Engineering | 10 |
| CIVL 4009 | Timber Structures (UG) | 10 |
| CIVL 4012 | Water Resource Engineering | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |

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

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 |
| PROC 1008 | Introduction to Materials Engineering | 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 | |
| MECH 2003 | Mechanics of Materials | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| Credit Points | | 40 |

Year 2**Spring session**

| | | |
|---|--|-----------|
| CIVL 2007 | Introduction to Structural Engineering | 10 |
| CIVL 2002 | Environmental Engineering | 10 |
| ENGR 2016 | Pavement Materials and Design | 10 |
| Select one elective | | 10 |
| *Elective subjects must be level 2 or higher (an exception applies for students completing Mathematics for Engineers Preliminary subject) | | |
| Credit Points | | 40 |

Autumn session

| | | |
|---|---------------------|-----------|
| CIVL 3014 | Structural Analysis | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| CIVL 2012 | Soil Mechanics | 10 |
| select one elective (level 2 or higher) | | 10 |
| Credit Points | | 40 |

Year 3**Spring session**

| | | |
|-----------------------|----------------------------------|-----------|
| CIVL 3012 | Steel Structures | 10 |
| ENGR 3020 | Numerical Methods in Engineering | 10 |
| CIVL 3011 | Hydraulics | 10 |
| One Alternate Subject | | 10 |
| Credit Points | | 40 |

Autumn session

| | | |
|-----------------------|--------------------------|----|
| CIVL 1001 | Surveying for Engineers | 10 |
| CIVL 4017 | Surface Water Hydrology | 10 |
| CIVL 3002 | Concrete Structures (UG) | 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 4011 | Sustainability and Risk Engineering | 10 |
| CIVL 3007 | Engineering Geomechanics | 10 |
| Alternate Subject | | 10 |
| Credit Points | | 40 |

Autumn session

| | | |
|---|---------------------------------------|-----------|
| ENGR 4026 | Final Year Project 2 (UG Engineering) | 10 |
| Major Alternate Subject | | 10 |
| Select two electives | | 20 |
| *Elective subjects must be level 2 or higher (an exception applies for students completing Mathematics for Engineers Preliminary subject) | | |
| Credit Points | | 40 |

Total Credit Points 320**Alternate Subjects**

| Subject | Title | Credit Points |
|-----------|-------------------------------|---------------|
| ENGR 3001 | Advanced Engineering Topic 1 | 10 |
| ENGR 4001 | Advanced Engineering Topic 2 | 10 |
| CIVL 4001 | Applied Mechanics | 10 |
| CIVL 3022 | Bridge Embankment Design | 10 |
| CIVL 3021 | Bridge Engineering Design | 10 |
| CIVL 4002 | Composite Structures | 10 |
| CIVL 3010 | Highway Infrastructure | 10 |
| CIVL 3018 | Hydrogeology | 10 |
| CIVL 4008 | Pile Foundations | 10 |
| EART 3005 | Statistical Hydrology | 10 |
| CIVL 3020 | Sustainable Waste Engineering | 10 |
| CIVL 4009 | Timber Structures (UG) | 10 |
| CIVL 4012 | Water Resource Engineering | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |

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

Bachelor of Engineering (Honours)/ Bachelor of Business

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

Start-year intake

| Course | Title | Credit Points |
|---------------------------------|---------------------------------------|---------------|
| Year 1 | | |
| Autumn session | | |
| ENGR 1011 | Engineering Physics | 10 |
| MATH 1016 | Mathematics for Engineers 1 | 10 |
| Business Core Subject 1 | | 10 |
| Business Core Subject 2 | | 10 |
| Credit Points | | 40 |
| Spring session | | |
| MATH 1019 | Mathematics for Engineers 2 | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Business Core Subject 3 | | 10 |
| Business Core Subject 4 | | 10 |
| Credit Points | | 40 |
| Year 2 | | |
| Autumn session | | |
| ELEC 1006 | Engineering Computing | 10 |
| Business Professional Subject 1 | | 10 |
| Business Professional Subject 2 | | 10 |
| Business Major Subject 1 | | 10 |
| Credit Points | | 40 |
| Spring session | | |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| Business Major Subject 2 | | 10 |

| | | |
|---------------------------------|--|------------|
| Business Major Subject 3 | | 10 |
| Credit Points | | 40 |
| Year 3 | | |
| Autumn session | | |
| CIVL 1001 | Surveying for Engineers | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| CIVL 2012 | Soil Mechanics | 10 |
| Credit Points | | 40 |
| Spring session | | |
| ENGR 2016 | Pavement Materials and Design | 10 |
| CIVL 2007 | Introduction to Structural Engineering | 10 |
| CIVL 2002 | Environmental Engineering | 10 |
| CIVL 3011 | Hydraulics | 10 |
| Credit Points | | 40 |
| Year 4 | | |
| Autumn session | | |
| CIVL 3014 | Structural Analysis | 10 |
| CIVL 3002 | Concrete Structures (UG) | 10 |
| CIVL 4017 | Surface Water Hydrology | 10 |
| Business Major Subject 4 | | 10 |
| Credit Points | | 40 |
| Spring session | | |
| CIVL 3012 | Steel Structures | 10 |
| CIVL 3007 | Engineering Geomechanics | 10 |
| Business Major Subject 5 | | 10 |
| Business Major Subject 6 | | 10 |
| Industrial Experience | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| Credit Points | | 40 |
| Year 5 | | |
| Autumn session | | |
| Industrial Experience | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| ENGR 4025 | Final Year Project 1 (UG Engineering) | 10 |
| Business Professional Subject 3 | | 10 |
| Business Major Subject 7 | | 10 |
| Business 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 |
| ENGR 3020 | Numerical Methods in Engineering | 10 |
| Business Professional Subject 4 | | 10 |
| Credit Points | | 40 |
| Total Credit Points | | 400 |

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

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 |
| Business Core Subject 1 | | 10 |
| Business Core Subject 2 | | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| MATH 1019 | Mathematics for Engineers 2 | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| Business Core Subject 3 | | 10 |
| Business Core Subject 4 | | 10 |
| Credit Points | | 40 |
| Year 2 | | |
| Spring session | | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| Business Professional Subject 1 | | 10 |
| Business Professional Subject 2 | | 10 |
| Business Major Subject 1 | | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| MECH 2003 | Mechanics of Materials | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| Business Major Subject 2 | | 10 |
| Business Major Subject 3 | | 10 |
| Credit Points | | 40 |
| Year 3 | | |
| Spring session | | |
| ENGR 2016 | Pavement Materials and Design | 10 |
| CIVL 2007 | Introduction to Structural Engineering | 10 |
| CIVL 2002 | Environmental Engineering | 10 |
| CIVL 3011 | Hydraulics | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| CIVL 3014 | Structural Analysis | 10 |
| CIVL 3002 | Concrete Structures (UG) | 10 |
| CIVL 4017 | Surface Water Hydrology | 10 |
| CIVL 2012 | Soil Mechanics | 10 |
| Credit Points | | 40 |
| Year 4 | | |
| Spring session | | |
| CIVL 3012 | Steel Structures | 10 |
| CIVL 3007 | Engineering Geomechanics | 10 |
| Business Major Subject 4 | | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| CIVL 1001 | Surveying for Engineers | 10 |
| Business Major Subject 5 | | 10 |
| Business Major Subject 6 | | 10 |
| ELEC 1006 | Engineering Computing | 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 4011 | Sustainability and Risk Engineering | 10 |
| ENGR 3020 | Numerical Methods in Engineering | 10 |
| Business Professional Subject 3 | | 10 |
| Credit Points | | 40 |
| Autumn session | | |
| ENGR 4026 | Final Year Project 2 (UG Engineering) | 10 |
| Business Professional Subject 4 | | 10 |
| Business Major Subject 7 | | 10 |
| Business Major Subject 8 | | 10 |
| Credit Points | | 40 |
| Total Credit Points | | 400 |

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

Related Programs

Bachelor of Engineering Advanced (Honours) (3771) (<https://hbook.westernsydney.edu.au/archives/2022-2023/programs/bachelor-engineering-advanced-honours/>)

Bachelor of Engineering Science (3691) (<https://hbook.westernsydney.edu.au/archives/2022-2023/programs/bachelor-engineering-science/>)