

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)

* Curriculum delivered through an agreement with another party

Recommended Sequence 2022-2023

If you commenced in 2024 or later please refer to the Structure 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 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
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Minors

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

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

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

Water and Environment, Minor (<https://hbook.westernsydney.edu.au/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
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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
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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
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Minors

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

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

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

Water and Environment, Minor (<https://hbook.westernsydney.edu.au/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

- Elective must be Level 2 or higher

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 (an exception applies for students completing Mathematics for Engineers Preliminary subject)

Industrial Experience

ENGR 2033	Industrial Experience (Engineering Technologist)	0
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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
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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 must be Level 2 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
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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 (3728)

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
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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

Major Sequence 2024

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 Advanced (Honours) (3771)

This Major will be offered at Engineering Innovation Hub which is part of Parramatta City campus.

Qualification for this award requires the successful completion of 320 credit points which include the subjects listed 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
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
MECH 2003	Mechanics of Materials	10
CIVL 2003	Fluid Mechanics	10
CIVL 2012	Soil Mechanics	10
Credit Points		40
Spring session		
CIVL 2007	Introduction to Structural Engineering	10
CIVL 2002	Environmental Engineering	10
CIVL 3011	Hydraulics	10
PROC 1008	Introduction to Materials Engineering	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
Select one elective or Minor subject		10
Credit Points		40
Spring session		
CIVL 3012	Steel Structures	10
CIVL 3007	Engineering Geomechanics	10
ENGR 3020	Numerical Methods in Engineering	10
ENGR 2016	Pavement Materials and Design	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
Select one elective or Minor subject		10
Select one elective or Minor subject		10
Credit Points		40
Spring session		
ENGR 4035	Smart and Liveable Cities	10
ENGR 4044	Advanced Engineering Thesis 2: Detailed Investigations	20

Select one elective or Minor subject	10
Credit Points	40
Total Credit Points	320

Subject	Title	Credit Points
Optional Electives		
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

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
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
PROC 1008	Introduction to Materials Engineering	10
Select one elective or Minor subject		10
Credit Points		40

Autumn session		
CIVL 3014	Structural Analysis	10
CIVL 2003	Fluid Mechanics	10
CIVL 2012	Soil Mechanics	10
ENGR 1024	Introduction to Engineering Practice	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
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Year 3		
Spring session		
CIVL 3012	Steel Structures	10
ENGR 3020	Numerical Methods in Engineering	10
CIVL 3011	Hydraulics	10
ENGR 2016	Pavement Materials and Design	10
Credit Points		40

Autumn session

CIVL 1001	Surveying for Engineers	10
CIVL 4017	Surface Water Hydrology	10
CIVL 3002	Concrete Structures (UG)	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
CIVL 3007	Engineering Geomechanics	10
ENGR 4035	Smart and Liveable Cities	10
Credit Points		40

Autumn session		
ENGR 4044	Advanced Engineering Thesis 2: Detailed Investigations	20
Select one elective or Minor subject		10
Select one elective or Minor subject		10
Credit Points		40
Total Credit Points		320

Subject	Title	Credit Points
Optional Electives		
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

Bachelor of Engineering (Honours) (3740)

This Major will be offered at Engineering Innovation Hub which is part of Parramatta City campus.

Qualification for this award requires the successful completion of 320 credit points which include the subjects listed 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		
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10
ELEC 1003	Electrical 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	
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
Select one elective or Minor subject	10
Credit Points	40
Spring session	
CIVL 3012 Steel Structures	10
CIVL 3007 Engineering Geomechanics	10
ENGR 3020 Numerical Methods in 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
BLDG 4008 Digital Construction	10
Select one elective or Minor subject	10
Credit Points	40
Spring session	
ENGR 4042 Final Year Project 2 (UG Engineering)	
ENGR 4011 Sustainability and Risk Engineering	10
Select one elective or Minor subject	10
Credit Points	20
Total Credit Points	300

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		
MECH 2003	Mechanics of Materials	10
ENGR 1011	Engineering Physics	10
ELEC 1006	Engineering Computing	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		
CIVL 2007	Introduction to Structural Engineering	10
CIVL 2002	Environmental Engineering	10
ENGR 2016	Pavement Materials and Design	10
ELEC 1003	Electrical Fundamentals	10
Credit Points		40
Autumn session		
CIVL 3014	Structural Analysis	10
CIVL 2003	Fluid Mechanics	10
CIVL 2012	Soil Mechanics	10
CIVL 1001	Surveying for Engineers	10
Credit Points		40
Year 3		
Spring session		
CIVL 3012	Steel Structures	10
ENGR 3020	Numerical Methods in Engineering	10
CIVL 3011	Hydraulics	10
CIVL 3007	Engineering Geomechanics	10
Credit Points		40
Autumn session		
CIVL 4017	Surface Water Hydrology	10
CIVL 3002	Concrete Structures (UG)	10
Select one elective or Minor subject		10
Select one elective or Minor subject		10
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 4011	Sustainability and Risk Engineering	10
Select one elective or Minor subject		10
Credit Points		40
Autumn session		
ENGR 4042	Final Year Project 2 (UG Engineering)	20
BLDG 4008	Digital Construction	10
Select one elective or Minor subject		10
Credit Points		40
Total Credit Points		320

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.

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
ELEC 1003	Electrical 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		
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
Select two electives (Level 2 or higher)		20
*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

Subject	Title	Credit Points
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	10

Mid-year intake

Course	Title	Credit Points
Year 1		
Spring session		
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10
ELEC 1003	Electrical Fundamentals	10
Select one of the following		10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	
Credit Points		40
Autumn session		
MECH 2003	Mechanics of Materials	10
ENGR 1011	Engineering Physics	10
ENGR 1024	Introduction to Engineering Practice	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		
CIVL 2007	Introduction to Structural Engineering	10
ENGR 2016	Pavement Materials and Design	10
ENGR 3029	Specialisation Workshop 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 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		
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

Subject	Title	Credit Points
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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	10
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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 sequences below.

Start year intake

Course	Title	Credit Points
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Year 1**Autumn session**

MATH 1016	Mathematics for Engineers 1	10
ENGR 1011	Engineering Physics	10
ENGR 1024	Introduction to Engineering Practice	10
Business Core Subject 1		10
Credit Points		40

Spring session

MATH 1019	Mathematics for Engineers 2	10
PROC 1008	Introduction to Materials Engineering	10
Business Core Subject 2		10
Business Core Subject 3		10
Credit Points		40

Year 2**Autumn session**

ELEC 1006	Engineering Computing	10
Business Core Subject 4		10
Business Professional Subject 1		10
Business Professional Subject 2		10
Credit Points		40

Spring session

ELEC 1003	Electrical Fundamentals	10
ENGR 1018	Fundamentals of Mechanics	10
Business Major Subject 1		10
Business Major Subject 2		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 3		10
Credit Points		40

Spring session

CIVL 3012	Steel Structures	10
CIVL 3007	Engineering Geomechanics	10
ENGR 3020	Numerical Methods in Engineering	10
Business 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
BLDG 4008	Digital Construction	10
Business 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
Business Major Subject 6		10
Credit Points		40

Year 6**Autumn session**

Business Major Subject 7		10
Business Major Subject 8		10
Business Professional Subject 3		10
Business Professional Subject 4		10
Credit Points		40
Total Credit Points		440

Mid-year intake

Course	Title	Credit Points
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Year 1**Spring session**

MATH 1016	Mathematics for Engineers 1	10
ENGR 1024	Introduction to Engineering Practice	10
PROC 1008	Introduction to Materials Engineering	10
Business Core Subject 1		10
Credit Points		40

Autumn session

MATH 1019	Mathematics for Engineers 2	10
ENGR 1011	Engineering Physics	10

Business Core Subject 2		10
Business Core Subject 3		10
Credit Points		40
Year 2		
Spring session		
ELEC 1003	Electrical Fundamentals	10
ENGR 1018	Fundamentals of Mechanics	10
Business Core Subject 4		10
Business Major Subject 1		10
Credit Points		40
Autumn session		
MECH 2003	Mechanics of Materials	10
CIVL 2003	Fluid Mechanics	10
Business Professional Subject 1		10
Business Major Subject 2		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
ENGR 3020	Numerical Methods in Engineering	10
Business Major Subject 3		10
Credit Points		40
Autumn session		
ELEC 1006	Engineering Computing	10
CIVL 1001	Surveying for Engineers	10
Business Professional Subject 2		10
Business Major Subject 4		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
Business Major Subject 5		10
Credit Points		40
Autumn session		
ENGR 4042	Final Year Project 2 (UG Engineering)	20
BLDG 4008	Digital Construction	10
Business Major Subject 6		10
Credit Points		40

Year 6**Spring session**

Business Professional Subject 3	10
Business Professional Subject 4	10
Business Major Subject 7	10
Business Major Subject 8	10
Credit Points	40
Total Credit Points	440

Related Programs

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/>)