

CONSTRUCTION ENGINEERING, TESTAMUR MAJOR (T132)

Western Sydney University Major Code: T132

Previous Code: MT3052.1

Available to students in other Western Sydney University programs?
No

Construction Engineering consists of core subjects in structural engineering, project management and construction technologies. Graduates will work in the fields of construction, structural design, and project management. Career opportunities include those in the private or public sector on projects covering highways, airports, and residential & commercial buildings. 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)

Recommended Sequence 2022 - 2023

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 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
ELEC 1006	Engineering Computing	10
ENGR 1047	Advanced Engineering Physics 1	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 2 or higher		

Credit Points 40

Year 2

Autumn session

CIVL 1001	Surveying for Engineers	10
MECH 2003	Mechanics of Materials	10
BLDG 2002	Building Measurement	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
BLDG 2001	Building Estimates and Tendering	10
Select one elective		10

• Elective subjects 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 3014	Structural Analysis	10
BUSM 3077	Construction Project Management	10
CIVL 3002	Concrete Structures (UG)	10
One Alternate subject		10

Credit Points 40

Spring session

CIVL 3012	Steel Structures	10
CIVL 3017	Construction Scheduling	10
CIVL 3007	Engineering Geomechanics	10
One Alternate subject		10

Industrial Experience

ENGR 3017	Industrial Experience (Engineering)	0
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Credit Points 40

Year 4

Autumn session

ENGR 4037	Advanced Engineering Thesis 1: Preliminary Investigations	10
BLDG 4007	Modern Construction Projects	10
One Alternate subject		10
Select one elective		10

• Elective subjects must be Level 2 or higher

Credit Points 40

Spring session

ENGR 4036	Advanced Engineering Thesis 2: Detailed Investigations	10
CIVL 4016	Envelope and Services	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

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

Subject	Title	Credit Points
GEOM 3001	Advanced Building Measurement	10
ENGR 3001	Advanced Engineering Topic 1	10
ENGR 4001	Advanced Engineering Topic 2	10
CIVL 4001	Applied Mechanics	10
CIVL 3021	Bridge Engineering Design	10
BLDG 3010	Building Cost Studies	10
CIVL 4002	Composite Structures	10
BLDG 3004	Construction Information Systems	10
CIVL 3010	Highway Infrastructure	10
CIVL 4008	Pile Foundations	10
BLDG 3009	Quality and Value Management	10
CIVL 4009	Timber Structures (UG)	10

Optional Electives

Subject	Title	Credit Points
BLDG 4006	Modern Construction Enterprises	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

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

ENGR 2016	Pavement Materials and Design	10
CIVL 2007	Introduction to Structural Engineering	10
BLDG 2001	Building Estimates and Tendering	10
Select one elective		10
• Elective unit must be Level 2 or higher		

Credit Points		40
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Autumn session

CIVL 3014	Structural Analysis	10
BLDG 2002	Building Measurement	10
CIVL 2012	Soil Mechanics	10
select one elective (level 2 or higher)		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
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Year 3

Spring session

CIVL 3012	Steel Structures	10
CIVL 3017	Construction Scheduling	10
CIVL 4016	Envelope and Services	10
One Alternate subject		10

Credit Points		40
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Autumn session

CIVL 1001	Surveying for Engineers	10
BUSM 3077	Construction Project Management	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
CIVL 3007	Engineering Geomechanics	10
One Alternate subject		10
Select one elective		10
• Elective unit must be Level 2 or higher		

Credit Points		40
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Autumn session

ENGR 4036	Advanced Engineering Thesis 2: Detailed Investigations	10
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BLDG 4007	Modern Construction Projects	10
One Alternate subject		10
Select one elective		10
• Elective unit must be Level 2 or higher		
Credit Points		40
Total Credit Points		320

Alternate Subjects

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

Subject	Title	Credit Points
GEOM 3001	Advanced Building Measurement	10
ENGR 3001	Advanced Engineering Topic 1	10
ENGR 4001	Advanced Engineering Topic 2	10
CIVL 4001	Applied Mechanics	10
CIVL 3021	Bridge Engineering Design	10
BLDG 3010	Building Cost Studies	10
CIVL 4002	Composite Structures	10
BLDG 3004	Construction Information Systems	10
CIVL 3010	Highway Infrastructure	10
CIVL 4008	Pile Foundations	10
BLDG 3009	Quality and Value Management	10
CIVL 4009	Timber Structures (UG)	10

Optional Electives

Subject	Title	Credit Points
BLDG 4006	Modern Construction Enterprises	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

Construction Economics, Minor (<https://hbook.westernsydney.edu.au/majors-minors/construction-economics-minor/>)
Structures, Minor (<https://hbook.westernsydney.edu.au/majors-minors/structures-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, and Penrith 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
BLDG 2002	Building Measurement	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
BLDG 2001	Building Estimates and Tendering	10
ENGR 3030	Specialisation Workshop 2	10
Credit Points		40
Year 3		
Autumn session		
ENGR 3013	Engineering Science Project 1	10
CIVL 2012	Soil Mechanics	10

BUSM 3077	Construction Project Management	10
BLDG 4007	Modern Construction Projects	10
Credit Points		40
Spring session		
CIVL 3017	Construction Scheduling	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
BLDG 2001	Building Estimates and Tendering	10
ENGR 2016	Pavement Materials and Design	10
ENGR 3029	Specialisation Workshop 1	10
Credit Points		40

Autumn session

CIVL 1001	Surveying for Engineers	10
ELEC 1006	Engineering Computing	10
BLDG 2002	Building Measurement	10
ENGR 3030	Specialisation Workshop 2	10
Credit Points		40

Year 3

Spring session

CIVL 3017	Construction Scheduling	10
CIVL 2002	Environmental Engineering	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 2012	Soil Mechanics	10
BUSM 3077	Construction Project Management	10
BLDG 4007	Modern Construction Projects	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)/ 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
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

BLDG 1014	Non-Residential Building	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
BLDG 2002	Building Measurement	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
BLDG 2001	Building Estimates and Tendering	10
CIVL 3017	Construction Scheduling	10
Credit Points		40

Year 4**Autumn session**

CIVL 3014	Structural Analysis	10
CIVL 3002	Concrete Structures (UG)	10
BUSM 3077	Construction Project Management	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
Credit Points		40

Year 5**Autumn session**

ENGR 4025	Final Year Project 1 (UG Engineering)	10
BLDG 4007	Modern Construction Projects	10
Business Professional Subject 3		10
Business Major Subject 7		10
Credit Points		40

Spring session

CIVL 4016	Envelope and Services	10
ENGR 4026	Final Year Project 2 (UG Engineering)	10
Business Professional Subject 4		10

Business Major Subject 8		10
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Industrial Experience

ENGR 3017	Industrial Experience (Engineering)	0
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
BLDG 2002	Building Measurement	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
BLDG 2001	Building Estimates and Tendering	10
CIVL 3017	Construction Scheduling	10
Credit Points		40

Autumn session

CIVL 3014	Structural Analysis	10
CIVL 3002	Concrete Structures (UG)	10
BUSM 3077	Construction Project Management	10
CIVL 2012	Soil Mechanics	10
Credit Points		40

Year 4**Spring session**

CIVL 3012	Steel Structures	10
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CIVL 3007	Engineering Geomechanics	10
Business Major Subject 4		10
BLDG 1014	Non-Residential Building	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
Credit Points		40
Year 5		
Spring session		
ENGR 4025	Final Year Project 1 (UG Engineering)	10
CIVL 4016	Envelope and Services	10
Business Professional Subject 3		10
Business Major Subject 7		10
Credit Points		40
Autumn session		
ENGR 4026	Final Year Project 2 (UG Engineering)	10
BLDG 4007	Modern Construction Projects	10
Business Professional Subject 4		10
Business Major Subject 8		10
Industrial Experience		
ENGR 3017	Industrial Experience (Engineering)	0
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

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.

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
Credit Points		40
Year 2		
Autumn session		
CIVL 1001	Surveying for Engineers	10
MECH 2003	Mechanics of Materials	10
BLDG 2002	Building Measurement	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
BLDG 2001	Building Estimates and Tendering	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
Year 3		
Autumn session		
CIVL 3014	Structural Analysis	10
BUSM 3077	Construction Project Management	10
CIVL 3002	Concrete Structures (UG)	10
One Alternate subject		10
Credit Points		40
Spring session		
CIVL 3012	Steel Structures	10
CIVL 3017	Construction Scheduling	10
CIVL 3007	Engineering Geomechanics	10
One Alternate subject		10
Credit Points		40
Year 4		
Autumn session		
BLDG 4007	Modern Construction Projects	10
ENGR 4025	Final Year Project 1 (UG Engineering)	10
One 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
Spring session		
CIVL 4016	Envelope and Services	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 (an exception applies for students completing Mathematics for Engineers Preliminary subject)		
Industrial Experience		
ENGR 3017	Industrial Experience (Engineering)	0
Credit Points		40
Total Credit Points		320

Alternate Subjects

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

Subject	Title	Credit Points
GEOM 3001	Advanced Building Measurement	10
ENGR 3001	Advanced Engineering Topic 1	10
ENGR 4001	Advanced Engineering Topic 2	10
CIVL 4001	Applied Mechanics	10
CIVL 3021	Bridge Engineering Design	10
BLDG 3010	Building Cost Studies	10
CIVL 4002	Composite Structures	10
BLDG 3004	Construction Information Systems	10
CIVL 3010	Highway Infrastructure	10
CIVL 4008	Pile Foundations	10
BLDG 3009	Quality and Value Management	10
CIVL 4009	Timber Structures (UG)	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 1019	Mathematics for Engineers 2	
MATH 1016	Mathematics for Engineers 1	
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
BLDG 2001	Building Estimates and Tendering	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
BLDG 2002	Building Measurement	10
CIVL 2012	Soil Mechanics	10
Select one elective		10

- Elective unit must be Level 2 or higher

Credit Points		40
Year 3		
Spring session		
CIVL 3012	Steel Structures	10
CIVL 3017	Construction Scheduling	10
CIVL 4016	Envelope and Services	10
One Alternate subject		10
Credit Points		40
Autumn session		
CIVL 1001	Surveying for Engineers	10
CIVL 3002	Concrete Structures (UG)	10
BUSM 3077	Construction Project Management	10
One Alternate subject		10
Credit Points		40
Year 4		
Spring session		
ENGR 4025	Final Year Project 1 (UG Engineering)	10
CIVL 3007	Engineering Geomechanics	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
BLDG 4007	Modern Construction Projects	10
Select one elective		10
One Alternate subject		10
• Elective unit must be Level 2 or higher		
Industrial Experience		
ENGR 3017	Industrial Experience (Engineering)	0
Credit Points		40
Total Credit Points		320

Alternate Subjects

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

Subject	Title	Credit Points
GEOM 3001	Advanced Building Measurement	10
ENGR 3001	Advanced Engineering Topic 1	10
ENGR 4001	Advanced Engineering Topic 2	10
CIVL 4001	Applied Mechanics	10
CIVL 3021	Bridge Engineering Design	10
BLDG 3010	Building Cost Studies	10
CIVL 4002	Composite Structures	10
BLDG 3004	Construction Information Systems	10
CIVL 3010	Highway Infrastructure	10
CIVL 4008	Pile Foundations	10
BLDG 3009	Quality and Value Management	10
CIVL 4009	Timber Structures (UG)	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

Major Sequence 2024

This sequence applies to students who commenced in 2024 or later. If you commenced prior to 2024 please refer to the Sequence 2022 - 2023 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.

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

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..

Start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
MATH 1034	Mathematics for Engineers 1 (Advanced)	10
ELEC 1006	Engineering Computing	10
ENGR 1047	Advanced Engineering Physics 1	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
BLDG 2002	Building Measurement	10
CIVL 2012	Soil Mechanics	10
Credit Points		40
Spring session		
PROC 1008	Introduction to Materials Engineering	10
CIVL 2007	Introduction to Structural Engineering	10
BLDG 2001	Building Estimates and Tendering	10
Select one elective or Minor subject		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 3014	Structural Analysis	10
BUSM 3077	Construction Project Management	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 3017	Construction Scheduling	10
CIVL 3007	Engineering Geomechanics	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
BLDG 4007	Modern Construction Projects	10
Select one elective or Minor subject		10
Credit Points		40

Spring session

ENGR 4044	Advanced Engineering Thesis 2: Detailed Investigations	20
CIVL 4016	Envelope and Services	10
Select one elective or Minor subject		10
Credit Points		40

Total Credit Points 320

Optional Electives

Subject	Title	Credit Points
BLDG 4006	Modern Construction Enterprises	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

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
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		
PROC 1008	Introduction to Materials Engineering	10
CIVL 2007	Introduction to Structural Engineering	10
BLDG 2001	Building Estimates and Tendering	10
Select one elective or Minor subject		10
Credit Points		40
Autumn session		
CIVL 3014	Structural Analysis	10
BLDG 2002	Building Measurement	10
CIVL 2012	Soil Mechanics	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		
CIVL 3012	Steel Structures	10
CIVL 3017	Construction Scheduling	10
CIVL 4016	Envelope and Services	10
ENGR 2016	Pavement Materials and Design	10
Credit Points		40
Autumn session		
CIVL 1001	Surveying for Engineers	10
BUSM 3077	Construction Project Management	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
Select one elective or Minor subject		10
Credit Points		40

Autumn session

ENGR 4044	Advanced Engineering Thesis 2: Detailed Investigations	20
BLDG 4007	Modern Construction Projects	10
Select one elective or Minor subject		10
Credit Points		40
Total Credit Points		320

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 (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		
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
BLDG 2002	Building Measurement	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
BLDG 2001	Building Estimates and Tendering	10
ENGR 3030	Specialisation Workshop 2	10
Credit Points		40
Year 3		
Autumn session		
ENGR 3013	Engineering Science Project 1	10
CIVL 2012	Soil Mechanics	10
BUSM 3077	Construction Project Management	10
Select one elective		10
Credit Points		40
Spring session		
CIVL 3017	Construction Scheduling	10
ENGR 3014	Engineering Science Project 2	10
CIVL 2002	Environmental Engineering	10
Select one elective		10
<ul style="list-style-type: none"> 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

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
ELEC 1003	Electrical Fundamentals	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
ENGR 1024	Introduction to Engineering Practice	10
Credit Points		40
Year 2		
Spring session		
CIVL 2007	Introduction to Structural Engineering	10
BLDG 2001	Building Estimates and Tendering	10
ENGR 2016	Pavement Materials and Design	10
ENGR 3029	Specialisation Workshop 1	10
Credit Points		40
Autumn session		
CIVL 1001	Surveying for Engineers	10
ELEC 1006	Engineering Computing	10
BLDG 2002	Building Measurement	10
ENGR 3030	Specialisation Workshop 2	10
Credit Points		40
Year 3		
Spring session		
CIVL 3017	Construction Scheduling	10
CIVL 2002	Environmental Engineering	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 2012	Soil Mechanics	10
BUSM 3077	Construction Project Management	10
Select one elective		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

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
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 3		10
Business Core Subject 4		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
BLDG 2002	Building Measurement	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
Business Major Subject 3		10

BLDG 2001	Building Estimates and Tendering	10
Credit Points		40
Year 4		
Autumn session		
CIVL 3014	Structural Analysis	10
CIVL 3002	Concrete Structures (UG)	10
BUSM 3077	Construction Project Management	10
Business Major Subject 4		10
Credit Points		40
Spring session		
CIVL 3012	Steel Structures	10
CIVL 3007	Engineering Geomechanics	10
CIVL 3017	Construction Scheduling	10
Business Major Subject 5		10
Industry 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
BLDG 4007	Modern Construction Projects	10
Credit Points		40
Spring session		
ENGR 4042	Final Year Project 2 (UG Engineering)	20
CIVL 4016	Envelope and Services	10
Business Major Subject 6		10
Credit Points		40
Year 6		
Spring session		
Business Major Subject 7		10
Business Professional Subject 3		10
Business Professional Subject 4		10
Business Major Subject 8		10
Credit Points		40
Total Credit Points		440

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
ENGR 1024	Introduction to Engineering Practice	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
BLDG 2002 Building Measurement	10
Business Major Subject 2	10
Business Professional Subject 1	10
Credit Points	40
Year 3	
Spring session	
ENGR 2016 Pavement Materials and Design	10
CIVL 2007 Introduction to Structural Engineering	10
BLDG 2001 Building Estimates and Tendering	10
Business Major Subject 3	10
Credit Points	40
Autumn session	
CIVL 3014 Structural Analysis	10
CIVL 3002 Concrete Structures (UG)	10
BUSM 3077 Construction Project Management	10
CIVL 2012 Soil Mechanics	10
Credit Points	40
Year 4	
Spring session	
CIVL 3012 Steel Structures	10
CIVL 3007 Engineering Geomechanics	10
CIVL 3017 Construction Scheduling	10
Business Major Subject 4	10
Credit Points	40
Autumn session	
ELEC 1006 Engineering Computing	10
CIVL 1001 Surveying for Engineers	10
Business Major Subject 5	10
Business 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
CIVL 4016 Envelope and Services	10
Business Major Subject 6	10
Credit Points	40
Autumn session	
ENGR 4042 Final Year Project 2 (UG Engineering)	20
BLDG 4008 Digital Construction	10
BLDG 4007 Modern Construction Projects	10
Credit Points	40

Year 6**Spring session**

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

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) (3740)

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		
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
ELEC 1003	Electrical Fundamentals	10
Credit Points		40
Year 2		
Autumn session		
CIVL 1001	Surveying for Engineers	10
MECH 2003	Mechanics of Materials	10
BLDG 2002	Building Measurement	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
BLDG 2001	Building Estimates and Tendering	10
Select one elective or Major subject		10
Credit Points		40
Year 3		
Autumn session		
CIVL 3014	Structural Analysis	10

BUSM 3077	Construction Project Management	10
CIVL 3002	Concrete Structures (UG)	10
One elective or Major subject		10
Credit Points		40
Spring session		
CIVL 3012	Steel Structures	10
CIVL 3017	Construction Scheduling	10
CIVL 3007	Engineering Geomechanics	10
One elective or Major subject		10
Credit Points		40
Year 4		
Autumn session		
BLDG 4007	Modern Construction Projects	10
ENGR 4041	Final Year Project 1 (UG Engineering)	20
BLDG 4008	Digital Construction	10
Credit Points		40
Spring session		
CIVL 4016	Envelope and Services	10
ENGR 4042	Final Year Project 2 (UG Engineering)	20
Select one elective or Major subject		10
Credit Points		40
Total Credit Points		320

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
ELEC 1006	Engineering Computing	10
Credit Points		40
Year 2		
Spring session		
CIVL 2007	Introduction to Structural Engineering	10
BLDG 2001	Building Estimates and Tendering	10
ENGR 2016	Pavement Materials and Design	10
ELEC 1003	Electrical Fundamentals	10
Credit Points		40

Autumn session

CIVL 3014	Structural Analysis	10
BLDG 2002	Building Measurement	10
CIVL 2012	Soil Mechanics	10
CIVL 1001	Surveying for Engineers	10
Credit Points		40

Year 3

Spring session

CIVL 3012	Steel Structures	10
CIVL 3017	Construction Scheduling	10
CIVL 3007	Engineering Geomechanics	10
Select one elective or Major subject		10
Credit Points		40

Autumn session

BUSM 3077	Construction Project Management	10
CIVL 3002	Concrete Structures (UG)	10
Select one elective or Major subject		10
Select one elective or Major 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
CIVL 4016	Envelope and Services	10
Select one elective or Major subject		10
Credit Points		40

Autumn session

ENGR 4042	Final Year Project 2 (UG Engineering)	20
BLDG 4007	Modern Construction Projects	10
BLDG 4008	Digital Construction	10
Credit Points		40
Total Credit Points		320

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