

# CIVIL ENGINEERING, TESTAMUR MAJOR

Western Sydney University Major Code: T131

Previous Code: MT3051.1

Available to students in other Western Sydney University programs?

No

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

## Location

Campus	Mode	Advice
Parramatta Campus - Victoria Road	Internal	Program Advice (edbe@westernsydney.edu.au)
Parramatta City Campus-Macquarie Street	Internal	Program Advice (edbe@westernsydney.edu.au)
Penrith Campus	Internal	Program Advice (edbe@westernsydney.edu.au)
Sydney City Campus	Internal	Peter Lendrum (https://directory.westernsydney.edu.au/search/email/p.lendrum@city.westernsydney.edu.au)

## Recommended Sequence

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

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.

Course	Title	Credit Points
<b>Year 1</b>		
<b>Autumn session</b>		
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
<b>Credit Points</b>		<b>40</b>

### 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
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
<b>Credit Points</b>		<b>40</b>

### 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

<b>Credit Points</b>	<b>40</b>
<b>Total Credit Points</b>	<b>320</b>

### Alternate Subjects

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

Subject	Title	Credit Points
ENGR 3001	Advanced Engineering Topic 1	10
ENGR 4001	Advanced Engineering Topic 2	10
CIVL 4001	Applied Mechanics	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

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

### 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.

Course	Title	Credit Points
<b>Year 1</b>		
<b>Autumn session</b>		
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**

<b>Spring session</b>		
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**

<b>Year 2</b>		
<b>Autumn session</b>		
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**

<b>Spring session</b>		
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**

<b>Year 3</b>		
<b>Autumn session</b>		
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**

<b>Spring session</b>		
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		
<b>Industrial Experience</b>		
ENGR 2033	Industrial Experience (Engineering Technologist)	0
<b>Credit Points</b>		<b>40</b>
<b>Total Credit Points</b>		<b>240</b>

### 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

## Related Programs

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