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# SUSTAINABILITY ENGINEERING, TESTAMUR MAJOR (T129)

Western Sydney University Major Code: T129

Previous Code: MT3050.1

Available to students in other Western Sydney University programs?

No

Engineers are leaders in developing novel approaches to solving the biggest challenges faced by environmental and interrelated systems. In this Major, students assess the impact of industrial development then propose design solutions using holistic, futuristic and sustainable technologies and strategies. Through hands-on, real-life projects, students explore solutions that integrate technical, technological (IoT), social, cultural, geographical, regulatory and ethical factors particularly in relation to water, air and land. This major will benefit students aiming for careers such as Environmental Engineer/Scientist/Consultant, Natural Resources Manager, Waste Engineer/Manger/ Consultant, and Sustainability Engineer/ Manager/ Consultant. This major includes a mandatory 300 to 450 hour industrial placement as a completion requirement.

#### Location

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Campus	Mode	Advice	Ye
Parramatta Campus - Victoria Road	Internal	Program Advice (edbe@westernsydney.ed	<b>Αι</b> UCI
Parramatta City Campus-Macquarie Street	Internal	Program Advice (edbe@westernsydney.ed	CI EL
Penrith Campus	Internal	Program Advice	_

## Recommended Sequence

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

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

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

## **Bachelor of Engineering (Honours)**

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

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

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

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

#### Start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
ENGR 1011	Engineering Physics	10
ENGR 1050	Sustainable Engineering Fundamentals	10
ENGR 1024	Introduction to Engineering Practice	10
Select one of the fo	llowing:	10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	
	Credit Points	40
Spring session		
ENGR 1018	Fundamentals of Mechanics	10
ELEC 1003	Electrical Fundamentals	10
Select one elective		10
• Elective can be	any Level for Year 1 Elective	
Select one of the fo	llowing:	10
MATH 1016	Mathematics for Engineers 1	
MATH 1019	Mathematics for Engineers 2	
	Credit Points	40
Year 2		
Autumn session		
CIVL 1001	Surveying for Engineers	10
CIVL 2003	Fluid Mechanics	10
ELEC 1006	Engineering Computing	10
EART 2001	Climate Change Science	10
ı.au) Spring session	Credit Points	40
CIVL 3011	Hydraulics	10
ENGR 2032	Sustainability Analysis and Design	10
CIVL 2018	Water Supply Systems Design	10
Select one elective		10
Elective must be	e Level 2 or higher	
	Credit Points	40
Year 3		
Autumn session		
CIVL 4017	Surface Water Hydrology	10
PROC 2003	Materials Selection and Design	10
ENVL 3005	Planning the City: Development, Community and Systems	10
One Alternate Subje	ect	10
	Credit Points	40
Spring session		
ELEC 3010	Renewable Energy Systems Design	10
CIVL 3020	Sustainable Waste Engineering	10
CIVL 3019	Wastewater Systems Design	10
One Alternate Subje	•	10
Industrial Experience		
ENGR 3017	Industrial Experience (Engineering)	0

**Credit Points** 

#### Year 4

Autumn	Session

ENGR 4025	Final Year Project 1 (UG Engineering)	10
ENGR 4034	Climate Smart Engineering	10
One Alternate Subject		10
Select one elective		10
er er i i i i	.1 1 10 1:1	

· Elective subject must be Level 2 or higher

	- " 1 -	
	Credit Points	40
Spring session		
ENGR 4035	Smart and Liveable Cities	10
ENGR 4026	Final Year Project 2 (UG Engineering)	10
One Alternate Su	ıbject	10
Select one electi	ve	10
Flactive cubi	acts must be Level 2 or higher	

Elective subjects must be Level 2 or higher

ts 40	Credit Points
Points 320	Total Credit Poin

#### **Alternate Subjects**

Subject	Title	Credit Points
PROC 4001	Advanced Materials Topics	10
PROC 4002	Engineering Materials from Waste	10
PROC 1008	Introduction to Materials Engineering	10
PROC 3008	Materials Processing and Applications	10
Modern Digital D	esign and Development (not yet available)	10
Digital Manufact	uring and IIoT (not yet available)	10
Design for Advan	ced Manufacturing (not yet available)	10
HUMN 1013	Contextualising Indigenous Australia (Day Mod	le) 10
Only three subject	cts may be chosen from the following	
CEDS 3001	Bridging the Gap: Re-engaging Indigenous Learners	10
PERF 2011	From Corroborees to Curtain Raisers (Day Mod	e) 10
VISU 2003	From Ochre to Acrylics to New Technologies	10
HUMN 1058	Indigenous Landscapes	10
WELF 3008	Learning through Indigenous Australian Community Service (Day Mode)	10
HUMN 2038	Pigments of the Imagination	10
HUMN 2048	Revaluing Indigenous Economics (Day Mode)	10
HUMN 3070	Rethinking Research with Indigenous Australians: Independent Study Project (Day Mode)	10
HUMN 3082	The Making of the 'Aborigines'	10

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

Indigenous Australian Studies, Minor (https://

hbook.westernsydney.edu.au/archives/2022-2023/majors-minors/ indigenous-australian-studies-minor/)

Materials Engineering, Minor (https://hbook.westernsydney.edu.au/ archives/2022-2023/majors-minors/materials-engineering-minor/) Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/ archives/2022-2023/majors-minors/advanced-manufacturing-minor/)

#### **Equivalent Subjects**

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

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

Mid-year intake		
Course	Title	Credit
		Points
Year 1		
Spring session		
Select one of the fol	•	10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	
ENGR 1018	Fundamentals of Mechanics	10
ELEC 1003	Electrical Fundamentals	10
ENGR 1024	Introduction to Engineering Practice	10
Autumn session	Credit Points	40
	lowing:	10
Select one of the fol MATH 1016	Mathematics for Engineers 1	10
MATH 1010 MATH 1019	Mathematics for Engineers 2	
CIVL 2003	Fluid Mechanics	10
ENGR 1011		10
ENGR 1011 ENGR 1050	Engineering Physics	10
ENGK 1050	Sustainable Engineering Fundamentals	
V0	Credit Points	40
Year 2		
Spring session ENGR 2032	Custoinshility Analysis and Dasign	10
	Sustainability Analysis and Design	
CIVL 2018 CIVL 3011	Water Supply Systems Design	10 10
Select one elective	Hydraulics	10
	st be Level 2 or higher	10
	St De Level 2 of Higher	
	Credit Points	40
Autumn session		
CIVL 1001	Surveying for Engineers	10
EART 2001	Climate Change Science	10
ELEC 1006	Engineering Computing	10
Select one elective		10
Elective unit mu	st be Level 2 or higher	
	Credit Points	40
Year 3		
Spring session		
ELEC 3010	Renewable Energy Systems Design	10
CIVL 3020	Sustainable Waste Engineering	10
CIVL 3019	Wastewater Systems Design	10
One alternate subject	et	10
	Credit Points	40
Autumn session		
CIVL 4017	Surface Water Hydrology	10
PROC 2003	Materials Selection and Design	10
ENVL 3005	Planning the City: Development,	10
	Community and Systems	
One alternate subject		10
Industrial Experienc		
ENGR 3017	Industrial Experience (Engineering)	0

**Credit Points** 

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#### Year 4 **Spring session**

ENGR 4025	Final Year Project 1 (UG Engineering)	10
ENGR 4035	Smart and Liveable Cities	10
Select one elective		10
One alternate subject	t	10
• Elective unit mus	at he Level 2 or higher	

Elective unit must be Level 2 or higher

	Credit Points	40
Autumn session		
ENGR 4026	Final Year Project 2 (UG Engineering)	10
ENGR 4034	Climate Smart Engineering	10
Select one electi	ve	10
One alternate su	bject	10
Elective unit	must be Level 2 or higher	
	Credit Points	40
	Total Credit Points	320

**Alternate Subjects** 

Subject	Title	Credit Points
PROC 4001	Advanced Materials Topics	10
PROC 4002	Engineering Materials from Waste	10
PROC 1008	Introduction to Materials Engineering	10
PROC 3008	Materials Processing and Applications	10
Modern Digital D	esign and Development (not yet available)	10
Digital Manufact	uring and IIoT (not yet available)	10
Design for Advar	nced Manufacturing (not yet available)	10
HUMN 1013	Contextualising Indigenous Australia (Day Mod	le) 10
Only three subject	cts may be chosen from the following	
CEDS 3001	Bridging the Gap: Re-engaging Indigenous Learners	10
PERF 2011	From Corroborees to Curtain Raisers (Day Mod	e) 10
VISU 2003	From Ochre to Acrylics to New Technologies	10
HUMN 1058	Indigenous Landscapes	10
WELF 3008	Learning through Indigenous Australian Community Service (Day Mode)	10
HUMN 2038	Pigments of the Imagination	10
HUMN 2048	Revaluing Indigenous Economics (Day Mode)	10
HUMN 3070	Rethinking Research with Indigenous Australians: Independent Study Project (Day Mode)	10
HUMN 3082	The Making of the 'Aborigines'	10

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

Indigenous Australian Studies, Minor (https://

hbook.westernsydney.edu.au/archives/2022-2023/majors-minors/ indigenous-australian-studies-minor/)

Materials Engineering, Minor (https://hbook.westernsydney.edu.au/ archives/2022-2023/majors-minors/materials-engineering-minor/) Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/ archives/2022-2023/majors-minors/advanced-manufacturing-minor/)

#### **Equivalent Subjects**

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

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

## **Bachelor of Engineering Advanced** (Honours)

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

#### Start-vear intake

Course	Title	Credit Points
Year 1		
Autumn session		
MATH 1034	Mathematics for Engineers 1 (Advanced)	10
ENGR 1024	Introduction to Engineering Practice	10
ENGR 1047	Advanced Engineering Physics 1	10
ENGR 1050	Sustainable Engineering Fundamentals	10
	Credit Points	40
Spring session		
MATH 1035	Mathematics for Engineers 2 (Advanced)	10
ENGR 1018	Fundamentals of Mechanics	10
ELEC 1003	Electrical Fundamentals	10
Select one elective		10
Elective can be a	any Level for Year 1	
	Credit Points	40
Year 2	Credit Points	40
Autumn session		
CIVL 1001	Cumuoving for Engineers	10
CIVL 1001 CIVL 2003	Surveying for Engineers Fluid Mechanics	
		10
ENGR 1045	Engineering Programming Fundamentals	10
EART 2001	Climate Change Science	10
	Credit Points	40
Spring session		
CIVL 3011	Hydraulics	10
ENGR 2032	Sustainability Analysis and Design	10
CIVL 2018	Water Supply Systems Design	10
Select one elective		10
Electives must be	e Level 2 or higher	
	maintain a minimum GPA of 5.0 at the end D Credit Points, and again at the completion	

of 200 Credit points will be automatically transferred to the B.

Engineering (Honours) (3740) program.

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	Credit Points	40
Year 3		
Autumn session	n	
CIVL 4017	Surface Water Hydrology	10
PROC 2003	Materials Selection and Design	10
ENVL 3005	Planning the City: Development,	10
	Community and Systems	
One Alternate S	One Alternate Subject	
	Credit Points	40
Spring session		
ELEC 3010	Renewable Energy Systems Design	10
CIVL 3020	Sustainable Waste Engineering	10
CIVL 3019	Wastewater Systems Design	10

One Alternate Sub	ject	10
Industrial Experie	nce	
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40
Year 4		
Autumn session		
ENGR 4037	Advanced Engineering Thesis 1: Preliminary Investigations	10
ENGR 4034	Climate Smart Engineering	10
One Alternate Sub	ject	10
Select one elective	e	10
Elective unit n	nust be Level 2 or higher	
	Credit Points	40
Spring session		
ENGR 4036	Advanced Engineering Thesis 2: Detailed Investigations	10
ENGR 4035	Smart and Liveable Cities	10
One Alternate sub	ject	10
Select one elective	e	10
• Elective subje	cts must be Level 2 or higher	
	Credit Points	40

Alternate	Cuh	Incte
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Subject	Title	Credit Points
PROC 4001	Advanced Materials Topics	10
PROC 4002	Engineering Materials from Waste	10
PROC 1008	Introduction to Materials Engineering	10
PROC 3008	Materials Processing and Applications	10
Modern Digital D	esign and Development (not yet available)	10
Digital Manufact	uring and IIoT (not yet available)	10
Design for Advar	nced Manufacturing (not yet available)	10
HUMN 1013	Contextualising Indigenous Australia (Day Mod	e) 10
Only three subject	cts may be chosen from the following	
CEDS 3001	Bridging the Gap: Re-engaging Indigenous Learners	10
PERF 2011	From Corroborees to Curtain Raisers (Day Mod	e) 10
VISU 2003	From Ochre to Acrylics to New Technologies	10
HUMN 1058	Indigenous Landscapes	10
WELF 3008	Learning through Indigenous Australian Community Service (Day Mode)	10
HUMN 2038	Pigments of the Imagination	10
HUMN 2048	Revaluing Indigenous Economics (Day Mode)	10
HUMN 3070	Rethinking Research with Indigenous Australians: Independent Study Project (Day Mode)	10
HUMN 3082	The Making of the 'Aborigines'	10

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

Indigenous Australian Studies, Minor (https://hbook.westernsydney.edu.au/archives/2022-2023/majors-minors/indigenous-australian-studies-minor/)
Materials Engineering, Minor (https://hbook.westernsydney.edu.au/archives/2022-2023/majors-minors/materials-engineering-minor/)

Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/archives/2022-2023/majors-minors/advanced-manufacturing-minor/)

#### **Equivalent Subjects**

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

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

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

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

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

#### Mid-year intake

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

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

Renewable Energy Systems Design

40

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of 200 Credit points will be automatically transferred to the B.

**Credit Points** 

Engineering (Honours) (3740) program.

Year 3

Spring session

**ELEC 3010** 

	Total Credit Points	320
	Credit Points	40
Elective must be	e Level 2 or higher	
Select one elective		10
One alternate subject	et	10
ENGR 4034	Climate Smart Engineering	10
ENGR 4036	Advanced Engineering Thesis 2: Detailed Investigations	10
Autumn session	Credit Points	40
Elective must be		
	Loyal 2 or higher	10
One alternate subjective	CT .	10
ENGR 4035	Smart and Liveable Cities	10
ENGR 4037	Advanced Engineering Thesis 1: Preliminary Investigations	10
Spring session		
Year 4	oredit i onits	40
LITOITOOTT	Credit Points	40
ENGR 3017	Industrial Experience (Engineering)	0
One alternate subject Industrial Experience		10
0	Community and Systems	10
ENVL 3005	Planning the City: Development,	10
PROC 2003	Materials Selection and Design	10
CIVL 4017	Surface Water Hydrology	10
Autumn session		
	Credit Points	40
One alternate subject	, ,	10
CIVL 3019	Wastewater Systems Design	10
CIVL 3020	Sustainable Waste Engineering	10

#### Alternate Subjects

Subject	Title	Credit Points
PROC 4001	Advanced Materials Topics	10
PROC 4002	Engineering Materials from Waste	10
PROC 1008	Introduction to Materials Engineering	10
PROC 3008	Materials Processing and Applications	10
Modern Digital D	esign and Development (not yet available)	10
Digital Manufact	uring and IIoT (not yet available)	10
Design for Advar	nced Manufacturing (not yet available)	10
HUMN 1013	Contextualising Indigenous Australia (Day Mod	e) 10
Only three subject	cts may be chosen from the following	
CEDS 3001	Bridging the Gap: Re-engaging Indigenous Learners	10
PERF 2011	From Corroborees to Curtain Raisers (Day Mod	e) 10
VISU 2003	From Ochre to Acrylics to New Technologies	10
HUMN 1058	Indigenous Landscapes	10
WELF 3008	Learning through Indigenous Australian Community Service (Day Mode)	10
HUMN 2038	Pigments of the Imagination	10
HUMN 2048	Revaluing Indigenous Economics (Day Mode)	10

HUMN 3070	Rethinking Research with Indigenous Australians: Independent Study Project (Day Mode)	10
HUMN 3082	The Making of the 'Aborigines'	10

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

Indigenous Australian Studies, Minor (https://

hbook.westernsydney.edu.au/archives/2022-2023/majors-minors/indigenous-australian-studies-minor/)

Materials Engineering, Minor (https://hbook.westernsydney.edu.au/archives/2022-2023/majors-minors/materials-engineering-minor/)
Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/archives/2022-2023/majors-minors/advanced-manufacturing-minor/)

#### **Equivalent Subjects**

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

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

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

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

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

# **Bachelor of Engineering (Honours)/ Bachelor of Business**

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

#### Start-year intake

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

BBus Major Subje	ect 1	10	Mid-year intake	<b>!</b>
	Credit Points	40	Course	Title
Spring session				
CIVL 3020	Sustainable Waste Engineering	10	Year 1	
ELEC 1003	Electrical Fundamentals	10	Spring session	
BBus Major Subje	ect 2	10	MATH 1016	Mathematics for Engineers 1
BBus Major Subje	ect 3	10	ENGR 1018	Fundamentals of Mechanics
	Credit Points	40	BBus Core Subject 1	1
Year 3			BBus Core Subject 2	2
Autumn session				Credit Points
CIVL 1001	Surveying for Engineers	10	Autumn session	
CIVL 2003	Fluid Mechanics	10	MATH 1019	Mathematics for Engineers 2
ELEC 1006	Engineering Computing	10	ENGR 1011	Engineering Physics
EART 2001	Climate Change Science	10	BBus Core Subject 3	3
	Credit Points	40	BBus Core Subject 4	4
Spring session				Credit Points
CIVL 3011	Hydraulics	10	Year 2	
ENGR 2032	Sustainability Analysis and Design	10	Spring session	
CIVL 2018	Water Supply Systems Design	10	ENGR 2032	Sustainability Analysis and Design
CIVL 3019	Wastewater Systems Design	10	ELEC 1003	Electrical Fundamentals
-	Credit Points	40	BBus Major Subject	1
Year 4			BBus Major Subject	2
Autumn session			, ,	Credit Points
CIVL 4017	Surface Water Hydrology	10	Autumn session	
ENVL 3005	Planning the City: Development,	10	CIVL 2003	Fluid Mechanics
	Community and Systems		ENGR 1050	Sustainable Engineering Fundamenta
PROC 2003	Materials Selection and Design	10	BBus Professional S	
BBus Major Subje	ect 4	10	BBus Major Subject	•
	Credit Points	40		Credit Points
Spring session			Year 3	
ELEC 3010	Renewable Energy Systems Design	10	Spring session	
BBus Major Subje	ect 5	10	ELEC 3010	Renewable Energy Systems Design
BBus Major Subje	ect 6	10	CIVL 3011	Hydraulics
BBus Major Subje	ect 7	10	CIVL 2018	Water Supply Systems Design
	Credit Points	40	CIVL 3019	Wastewater Systems Design
Year 5				Credit Points
Autumn session			Autumn session	
ENGR 4025	Final Year Project 1 (UG Engineering)	10	ELEC 1006	Engineering Computing
ENGR 4034	Climate Smart Engineering	10	EART 2001	Climate Change Science
BBus Professiona	l Subject 3	10	CIVL 1001	Surveying for Engineers
BBus Major Subje	ect 8	10	BBus Professional S	
	Credit Points	40		Credit Points
Spring session			Year 4	
ENGR 4026	Final Year Project 2 (UG Engineering)	10	Spring session	
ENGR 4035	Smart and Liveable Cities	10	CIVL 3020	Sustainable Waste Engineering
EART 3005	Statistical Hydrology	10	BBus Major Subject	
BBus Professiona		10	BBus Major Subject	
Industrial Experie	·		BBus Major Subject	
ENGR 3017	Industrial Experience (Engineering)	0	BBao Major Gabjeot	Credit Points
	Credit Points	40	Autumn session	orealt rollits
	Total Credit Points	400	CIVL 4017	Surface Water Hydrology
	. Juli orealt i ollito	<del>-</del> 00	ENVL 3005	Planning the City: Development,
			LIVIE 0000	Community and Systems
			PROC 2003	Materials Selection and Design

BBus Major Subject 7

**Industrial Experience** 

Credit Points

ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40
Year 5		
Spring session		
ENGR 4025	Final Year Project 1 (UG Engineering)	10
ENGR 4035	Smart and Liveable Cities	10
EART 3005	Statistical Hydrology	10
BBus Profession	al Subject 3	10
	Credit Points	40
Autumn session		
ENGR 4026	Final Year Project 2 (UG Engineering)	10
ENGR 4034	Climate Smart Engineering	10
BBus Profession	al Subject 4	10
BBus Major Sub	ject 8	10
	Credit Points	40
	Total Credit Points	400

## **Bachelor of Engineering Science**

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

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

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

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

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

#### Start-year intake

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

MATH 1016	Mathematics for Engineers 1	
MATH 1019	Mathematics for Engineers 2	
	Credit Points	40
Year 2		
Autumn session		
ENGR 3029	Specialisation Workshop 1	10
CIVL 2003	Fluid Mechanics	10
ELEC 1006	Engineering Computing	10
EART 2001	Climate Change Science	10
	Credit Points	40
Spring session		
CIVL 3011	Hydraulics	10
ENGR 2032	Sustainability Analysis and Design	10
CIVL 2018	Water Supply Systems Design	10
ENGR 3030	Specialisation Workshop 2	10
	Credit Points	40
Year 3		
Autumn session		
ENGR 3013	Engineering Science Project 1	10
CIVL 4017	Surface Water Hydrology	10
ENVL 3005	Planning the City: Development,	10
	Community and Systems	
Select one elective	re	10
Elective must	be Level 2 or higher	
	Credit Points	40
Spring session		
ENGR 3014	Engineering Science Project 2	10
ELEC 3010	Renewable Energy Systems Design	10
CIVL 3020	Sustainable Waste Engineering	10
CIVL 3019	Wastewater Systems Design	10
Industrial Experie	nce	
ENGR 2033	Industrial Experience (Engineering Technologist)	0
	Credit Points	40
	Total Credit Points	240

#### Mid-year intake

Course	litle	Credit Points
Year 1		
Spring session		
Select one of the	following:	10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	
ENGR 1018	Fundamentals of Mechanics	10
ELEC 1003	Electrical Fundamentals	10
ENGR 1024	Introduction to Engineering Practice	10
	Credit Points	40
Autumn session		
Select one of the following:		10
MATH 1016	Mathematics for Engineers 1	
MATH 1019	Mathematics for Engineers 2	
CIVL 2003	Fluid Mechanics	10
ENGR 1011	Engineering Physics	10
ENGR 1050	Sustainable Engineering Fundamentals	10
	Credit Points	40

Year 2		
Spring session		
ENGR 3029	Specialisation Workshop 1	10
ENGR 2032	Sustainability Analysis and Design	10
CIVL 2018	Water Supply Systems Design	10
CIVL 3011	Hydraulics	10
	Credit Points	40
Autumn session		
ENGR 3030	Specialisation Workshop 2	10
EART 2001	Climate Change Science	10
ELEC 1006	Engineering Computing	10
Select one electiv	/e	10
Elective must	t be Level 2 or higher	
Industrial Experie	nce	
ENGR 2033	Industrial Experience (Engineering Technologist)	0
	Credit Points	40
Year 3		
Spring session		
ENGR 3013	Engineering Science Project 1	10
ELEC 3010	Renewable Energy Systems Design	10
CIVL 3020	Sustainable Waste Engineering	10
CIVL 3019	Wastewater Systems Design	10
	Credit Points	40
Autumn session		
ENGR 3014	Engineering Science Project 2	10
CIVL 4017	Surface Water Hydrology	10
ENVL 3005	Planning the City: Development, Community and Systems	10
Select one electiv	/e	10
Elective must	t be Level 2 or higher	
	Credit Points	40
	Total Credit Points	240

## **Related Programs**

Bachelor of Engineering (Honours)/Bachelor of Business (3728) (https://hbook.westernsydney.edu.au/archives/2022-2023/programs/bachelor-engineering-honours-bachelor-business/)

Bachelor of Engineering (Honours) (3740) (https://

hbook.westernsydney.edu.au/archives/2022-2023/programs/bachelorengineering-honours/)

Bachelor of Engineering Science (3691) (https://

hbook.westernsydney.edu.au/archives/2022-2023/programs/bachelor-engineering-science/)