MATERIALS ENGINEERING, TESTAMUR MAJOR (T128)

Western Sydney University Major Code: T128

Previous Code: MT3049.1

Available to students in other Western Sydney University programs?

No

Since the dawning of mankind an understanding of how materials can be obtained and used has been critical to successful human endeavour. Materials engineers are concerned with the highly technological and dynamic process of understanding, developing, and applying materials (metals, polymers, ceramics, composites) to a range of engineering problems. Students will develop skills necessary to synthesise relevant information so that they can be effective decision makers in a materials context. These skills will serve them well in varied career opportunities associated with biomedical devices, nanotechnology, advanced manufacturing, opto-electronics, energy, aerospace, and sustainable construction. 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	Y 1,6
Parramatta City Campus-Macquarie Street	Internal	Program Advice (edbe@westernsydney.edu	N
Penrith Campus	Internal	Program Advice (edbe@westernsydney.edu	_

Recommended Sequence 2022-23

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 (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

ENGR 4025

Course	Title	Credit Points
Year 1		
Autumn session		
ENGR 1011	Engineering Physics	10
PROC 1006	Materials Engineering Fundamentals	10
ENGR 1024	Introduction to Engineering Practice	10
Select one of the fo	3	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 fo	ollowing:	10
MATH 1016	Mathematics for Engineers 1	
MATH 1019	Mathematics for Engineers 2	
	Credit Points	40
Year 2		
u Autumn session		
MECH 2001	Kinematics and Kinetics of Machines	10
u _{MECH 2003}	Mechanics of Materials	10
ELEC 1006	Engineering Computing	10
PROC 2003	Materials Selection and Design	10
u	Credit Points	40
Spring session		
ENGR 2016	Pavement Materials and Design	10
ENGR 2001	Automated Manufacturing	10
ENGR 2032	Sustainability Analysis and Design	10
MECH 3002	Advanced Mechanics of Materials	10
	Credit Points	40
Year 3	0.00.0	
Autumn session		
MECH 3005	Mechanical Design	10
PROC 3008	Materials Processing and Applications	10
CIVL 2003	Fluid Mechanics	10
Select one elective		10
	be Level 2 or higher	10
Liective must b	De Level 2 of Hilgher	
	Credit Points	40
Spring session		
PROC 4001	Advanced Materials Topics	10
CIVL 3020	Sustainable Waste Engineering	10
MECH 3008	Thermodynamics and Heat Transfer	10
Select one Alternat	te Subject	10
Industrial Experien		
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40
Year 4		
Autumn session		
PROC 4002	Engineering Materials from Waste	10
FNGR 4025	Final Year Project 1 (IIG Engineering)	10

Final Year Project 1 (UG Engineering)

Select one Alternate Subject		10
Select one elective		10
Elective subject must be Level 2 or higher		
	Credit Points	40
Spring session		
ENGR 4026	Final Year Project 2 (UG Engineering)	10
Two Alternate Subjects		20
Select one elective		10
Elective subjects must be Level 2 or higher		

Credit Points	40
Total Credit Points	320

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Alternate Subjects

Subject	Title	Credit Points
BIOS 1022	Introduction to Human Biology	10
HLTH 2003	Biomechanics	10
ENGR 3003	Biomedical Electronics	10
ENGR 3004	Biomedical Signals and Data Analysis	10
ELEC 1003	Electrical Fundamentals	10
ENGR 4035	Smart and Liveable Cities	10
ENGR 4034	Climate Smart Engineering	10
ELEC 3010	Renewable Energy Systems Design	10
CIVL 2018	Water Supply Systems Design	10
Modern Digital Do	esign and Development (not yet available)	10
Digital Manufacto	uring and IIoT (not yet available)	10
Design for Advan	ced Manufacturing (not yet available)	10
HUMN 1013	Contextualising Indigenous Australia (Day Mod	de) 10
HUMN 1058	Indigenous Landscapes	10
HUMN 2038	Pigments of the Imagination	10
HUMN 2048	Revaluing Indigenous Economics (Day Mode)	10
PERF 2011	From Corroborees to Curtain Raisers (Day Moo	le) 10
VISU 2003	From Ochre to Acrylics to New Technologies	10
CEDS 3001	Bridging the Gap: Re-engaging Indigenous Learners	10
HUMN 3082	The Making of the 'Aborigines'	10
WELF 3008	Learning through Indigenous Australian Community Service (Day Mode)	10
HUMN 3070	Rethinking Research with Indigenous Australians: Independent Study Project (Day Mode)	10

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

Biomedical Engineering, Minor (https://hbook.westernsydney.edu.au/majors-minors/biomedical-engineering-minor/)

Indigenous Australian Studies, Minor (https://

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

Sustainability Engineering, Minor (https://

hbook.we stern sydney. edu. au/majors-minors/sustain ability-engineering-minor/)

Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/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

Mid-year intak	e	
Course	Title	Credit Points
Year 1		
Spring session		
Select one of the fo	ollowing:	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 fo		10
MATH 1019	Mathematics for Engineers 2	
MATH 1016	Mathematics for Engineers 1	
ENGR 1011	Engineering Physics	10
PROC 1006	Materials Engineering Fundamentals	10
Select one elective		10
Elective unit m	ust be Level 1 or higher	
	Credit Points	40
Year 2		
Spring session		
ENGR 2001	Automated Manufacturing	10
ENGR 2032	Sustainability Analysis and Design	10
ENGR 2016	Pavement Materials and Design	10
Select one elective		10
Elective unit mi	ust be Level 2 or higher	
	Credit Points	40
Autumn session		
PROC 2003	Materials Selection and Design	10
MECH 2003	Mechanics of Materials	10
MECH 2001	Kinematics and Kinetics of Machines	10
PROC 3008	Materials Processing and Applications	10
	Credit Points	40
Year 3		
Spring session		
PROC 4001	Advanced Materials Topics	10
CIVL 3020	Sustainable Waste Engineering	10
MECH 3008	Thermodynamics and Heat Transfer	10
MECH 3002	Advanced Mechanics of Materials	10
	Credit Points	40
Autumn session		
ELEC 1006	Engineering Computing	10
MECH 3005	Mechanical Design	10
CIVL 2003	Fluid Mechanics	10
One Alternate Subj		10
Industrial Experien		
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40

Year 4 Spring session

ENGR 4025	Final Year Project 1 (UG Engineering)	10
One Alternate subject		10
One Alternate subject		10
Select one elective		10
Flective unit m	just he Level 2 or higher	

	Credit Points	40
Autumn session		
ENGR 4026	Final Year Project 2 (UG Engineering)	10
PROC 4002	Engineering Materials from Waste	10
Select one elective		10
One Alternate subject		10

· Elective unit must be Level 2 or higher

Credit Points	40
Total Credit Points	320

Alternate Subjects

Subject	Title	Credit Points
BIOS 1022	Introduction to Human Biology	10
HLTH 2003	Biomechanics	10
ENGR 3003	Biomedical Electronics	10
ENGR 3004	Biomedical Signals and Data Analysis	10
ELEC 1003	Electrical Fundamentals	10
ENGR 4035	Smart and Liveable Cities	10
ENGR 4034	Climate Smart Engineering	10
ELEC 3010	Renewable Energy Systems Design	10
CIVL 2018	Water Supply Systems Design	10
Modern Digital Do	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	de) 10
HUMN 1058	Indigenous Landscapes	10
HUMN 2038	Pigments of the Imagination	10
HUMN 2048	Revaluing Indigenous Economics (Day Mode)	10
PERF 2011	From Corroborees to Curtain Raisers (Day Moo	le) 10
VISU 2003	From Ochre to Acrylics to New Technologies	10
CEDS 3001	Bridging the Gap: Re-engaging Indigenous Learners	10
HUMN 3082	The Making of the 'Aborigines'	10
WELF 3008	Learning through Indigenous Australian Community Service (Day Mode)	10
HUMN 3070	Rethinking Research with Indigenous Australians: Independent Study Project (Day Mode)	10

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

Biomedical Engineering, Minor (https://hbook.westernsydney.edu.au/majors-minors/biomedical-engineering-minor/)

Indigenous Australian Studies, Minor (https://

hbook.we stern sydney.edu. au/majors-minors/indigenous-australian-studies-minor/)

Sustainability Engineering, Minor (https://

hbook.we stern sydney. edu. au/majors-minors/sustain ability-engineering-minor/)

Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/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-year intake

Year 3

Autumn session

One Alternate Subject

PROC 3008

MECH 3005

CIVL 2003

Spring session

PROC 4001

Course	Title	Credit Points
Year 1		
Autumn session		
MATH 1034	Mathematics for Engineers 1 (Advanced)	10
ENGR 1047	Advanced Engineering Physics 1	10
PROC 1006	Materials Engineering Fundamentals	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
	Credit Points	40
Year 2		
Autumn session		
MECH 2001	Kinematics and Kinetics of Machines	10
MECH 2003	Mechanics of Materials	10
ENGR 1045	Engineering Programming Fundamentals	10
PROC 2003	Materials Selection and Design	10
	Credit Points	40
Spring session		
MECH 2005	Mathematics for Mechanical and	10
	Mechatronic Engineers	
ENGR 2032	Sustainability Analysis and Design	10
ENGR 2016	Pavement Materials and Design	10
ENGR 2001	Automated Manufacturing	10
of completion of 160	maintain a minimum GPA of 5.0 at the end 0 Credit Points, and again at the completion will be automatically transferred to the B. rs) (3740) program.	
	Credit Points	40

Materials Processing and Applications

Mechanical Design

Advanced Materials Topics

Fluid Mechanics

Credit Points

10

10

10

10

40

CIVL 3020	Sustainable Waste Engineering	10
MECH 3008	Thermodynamics and Heat Transfer	10
Select one elective		10
 Electives must b 	e Level 2 or higher	

4

Industrial Experience			
ENGR 3017	Industrial Experience (Engineering)	0	
	Credit Points	40	
Year 4			
Autumn session			
PROC 4002	Engineering Materials from Waste	10	
ENGR 4037	Advanced Engineering Thesis 1: Preliminary Investigations	10	
One Alternate Subject		10	
Select one elective		10	
Elective unit r	nust be Level 2 or higher		

Credit Points 40 Spring session **ENGR 4036** Advanced Engineering Thesis 2: Detailed 10 Investigations 10 Two Alternate subjects Select two electives 20

· Elective subjects must be Level 2 or higher

Credit Points

320 **Total Credit Points**

Alternate Subjects

Subject	Title	Credit Points
BIOS 1022	Introduction to Human Biology	10
HLTH 2003	Biomechanics	10
ENGR 3003	Biomedical Electronics	10
ENGR 3004	Biomedical Signals and Data Analysis	10
ELEC 1003	Electrical Fundamentals	10
ENGR 4035	Smart and Liveable Cities	10
ENGR 4034	Climate Smart Engineering	10
ELEC 3010	Renewable Energy Systems Design	10
CIVL 2018	Water Supply Systems Design	10
Modern Digital De	esign and Development (not yet available)	10
Digital Manufactu	uring and IIoT (not yet available)	10
Design for Advan	ced Manufacturing (not yet available)	10
HUMN 1013	Contextualising Indigenous Australia (Day Mod	de) 10
HUMN 1058	Indigenous Landscapes	10
HUMN 2038	Pigments of the Imagination	10
HUMN 2048	Revaluing Indigenous Economics (Day Mode)	10
PERF 2011	From Corroborees to Curtain Raisers (Day Moo	le) 10
VISU 2003	From Ochre to Acrylics to New Technologies	10
CEDS 3001	Bridging the Gap: Re-engaging Indigenous Learners	10
HUMN 3082	The Making of the 'Aborigines'	10
WELF 3008	Learning through Indigenous Australian Community Service (Day Mode)	10
HUMN 3070	Rethinking Research with Indigenous Australians: Independent Study Project (Day Mode)	10

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

Biomedical Engineering, Minor (https://hbook.westernsydney.edu.au/ majors-minors/biomedical-engineering-minor/)

Indigenous Australian Studies, Minor (https://

hbook.westernsydney.edu.au/majors-minors/indigenous-australianstudies-minor/)

Sustainability Engineering, Minor (https://

hbook.westernsydney.edu.au/majors-minors/sustainabilityengineering-minor/)

Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/ 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

Course	Title	Credit Points
Year 1		
Spring session		
MATH 1034	Mathematics for Engineers 1 (Advanced)	10
ENGR 1011	Engineering Physics	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
ENGR 1047	Advanced Engineering Physics 1	10
PROC 1006	Materials Engineering Fundamentals	10
Select one elective		10
Elective unit mus	t be Level 1 or higher	
	Credit Points	40
Year 2		
Spring session		
MECH 2005	Mathematics for Mechanical and Mechatronic Engineers	10
ENGR 2001	Automated Manufacturing	10
ENGR 2032	Sustainability Analysis and Design	10
ENGR 2016	Pavement Materials and Design	10
	Credit Points	40
Autumn session		
PROC 2003	Materials Selection and Design	10
MECH 2003	Mechanics of Materials	10
MECH 2001	Kinematics and Kinetics of Machines	10

Select one elective One Alternate sub • Elective unit m	ject nust be Level 2 or higher Credit Points	40
One Alternate sub		10
One Alternate sub		10
	ioot	1 (
Coloot one clastic	=	10
PROC 4002	Engineering Materials from Waste	10
ENGR 4036	Advanced Engineering Thesis 2: Detailed Investigations	10
Autumn session	Advanced Engineering Theorie C. Dez. 11. 1	1.
	Credit Points	4
Elective unit m	nust be Level 2 or higher	
Select one elective		10
One Alternate sub		10
One Alternate sub	ject	10
ENGR 4037	Advanced Engineering Thesis 1: Preliminary Investigations	10
Spring session		
Year 4		
	Credit Points	40
ENGR 3017	Industrial Experience (Engineering)	(
Industrial Experier	nce	
One Alternate sub	ject	1
CIVL 2003	Fluid Mechanics	1
MECH 3005	Mechanical Design	1
ELEC 1006	Engineering Computing	10
Autumn session		
	Credit Points	40
Elective unit m	nust be Level 2 or higher	
Select one elective		10
MECH 3008	Thermodynamics and Heat Transfer	10
CIVL 3020	Sustainable Waste Engineering	10
PROC 4001	Advanced Materials Topics	10
Spring session		
Year 3		
	Credit Points	4
	ts will be automatically transferred to the B. ours) (3740) program.	
of completion of 1 of 200 Credit point		

Materials Processing and Applications

10

PROC 3008

	Total orealt Foling	020		
Alternate Subje	Alternate Subjects			
Subject	Title	Credit Points		
BIOS 1022	Introduction to Human Biology	10		
HLTH 2003	Biomechanics	10		
ENGR 3003	Biomedical Electronics	10		
ENGR 3004	Biomedical Signals and Data Analysis	10		
ELEC 1003	Electrical Fundamentals	10		
ENGR 4035	Smart and Liveable Cities	10		
ENGR 4034	Climate Smart Engineering	10		
ELEC 3010	Renewable Energy Systems Design	10		
CIVL 2018	Water Supply Systems Design	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 Mode)	10
HUMN 1058	Indigenous Landscapes	10
HUMN 2038	Pigments of the Imagination	10
HUMN 2048	Revaluing Indigenous Economics (Day Mode)	10
PERF 2011	From Corroborees to Curtain Raisers (Day Mode)	10
VISU 2003	From Ochre to Acrylics to New Technologies	10
CEDS 3001	Bridging the Gap: Re-engaging Indigenous Learners	10
HUMN 3082	The Making of the 'Aborigines'	10
WELF 3008	Learning through Indigenous Australian Community Service (Day Mode)	10
HUMN 3070	Rethinking Research with Indigenous Australians: Independent Study Project (Day Mode)	10

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

Biomedical Engineering, Minor (https://hbook.westernsydney.edu.au/majors-minors/biomedical-engineering-minor/)

Indigenous Australian Studies, Minor (https://

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

Sustainability Engineering, Minor (https://

hbook.westernsydney.edu.au/majors-minors/sustainability-engineering-minor/)

Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/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 (3728)

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

Course	Title	Credit Points
Year 1		
Autumn session		
MATH 1016	Mathematics for Engineers 1	10
ENGR 1011	Engineering Physics	10
BBus Core Subjec	et 1	10

DD C	• 0	1.0
BBus Core Subjec	t 2 Credit Points	10
Spring session	Credit Points	40
MATH 1019	Mathematics for Engineers 2	10
ENGR 1018	Fundamentals of Mechanics	10
BBus Core Subjec		10
BBus Core Subjec		10
	Credit Points	40
Year 2		
Autumn session		
PROC 1006	Materials Engineering Fundamentals	10
BBus Professiona	· · ·	10
BBus Professiona	Subject 2	10
BBus Major Subje	ct 1	10
	Credit Points	40
Spring session		
PROC 1008	Introduction to Materials Engineering	10
ELEC 1003	Electrical Fundamentals	10
BBus Major Subje	ct 2	10
BBus Major Subje	ct 3	10
	Credit Points	40
Year 3		
Autumn session		
ELEC 1006	Engineering Computing	10
MECH 2001	Kinematics and Kinetics of Machines	10
MECH 2003	Mechanics of Materials	10
PROC 2003	Materials Selection and Design	10
	Credit Points	40
Spring session		
ENGR 2032	Sustainability Analysis and Design	10
ENGR 2001	Automated Manufacturing	10
MECH 3002	Advanced Mechanics of Materials	10
ENGR 2016	Pavement Materials and Design	10
	Credit Points	40
Year 4		
Autumn session		
PROC 3008	Materials Processing and Applications	10
MECH 3005	Mechanical Design	10
BBus Major Subje		10
BBus Major Subje		10
Ci	Credit Points	40
Spring session PROC 4001	Advanced Metarials Taxias	10
CIVL 3020	Advanced Materials Topics	10 10
	Sustainable Waste Engineering	10
BBus Major Subje BBus Major Subje		10
Industrial Experien		10
ENGR 3017	Industrial Experience (Engineering)	0
LINGIT 3017	Credit Points	40
Year 5	Great rounts	40
Autumn session		
ENGR 4025	Final Year Project 1 (UG Engineering)	10
PROC 4002	Engineering Materials from Waste	10
BBus Professiona		10
BBus Major Subje	•	10
2240 Major Oubje	Credit Points	40
	Greater onits	40

Spring session

	Total Credit Points	400
	Credit Points	40
BBus Professiona	al Subject 4	10
ENGR 3020	Numerical Methods in Engineering	10
MECH 3008	Thermodynamics and Heat Transfer	10
ENGR 4026	Final Year Project 2 (UG Engineering)	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		
MATH 1016	Mathematics for Engineers 1	10
ENGR 1018	Fundamentals of Mechanics	10
BBus Core Subject 1		10
BBus Core Subject 2		10
	Credit Points	40
Autumn session		
MATH 1019	Mathematics for Engineers 2	10
ENGR 1011	Engineering Physics	10
BBus Core Subject 3		10
BBus Core Subject 4		10
	Credit Points	40
Year 2		
Spring session		
PROC 1008	Introduction to Materials Engineering	10
ELEC 1003	Electrical Fundamentals	10
BBus Major Subject	1	10
BBus Major Subject 2	2	10
	Credit Points	40
Autumn session		
PROC 1006	Materials Engineering Fundamentals	10
BBus Professional St	ubject 1	10
BBus Professional St	ubject 2	10
BBus Major Subject 3	3	10
	Credit Points	40
Year 3		
Spring session		
ENGR 2032	Sustainability Analysis and Design	10
ENGR 2001	Automated Manufacturing	10
CIVL 3020	Sustainable Waste Engineering	10
PROC 2003	Materials Selection and Design	10
	Credit Points	40
Autumn session		
ELEC 1006	Engineering Computing	10
MECH 2001	Kinematics and Kinetics of Machines	10
MECH 2003	Mechanics of Materials	10
PROC 2003	Materials Selection and Design	10
	Credit Points	40

Year 4		
Spring session		
PROC 4001	Advanced Materials Topics	10
MECH 3005	Mechanical Design	10
BBus Major Subject	ot 4	10
BBus Major Subject	ot 5	10
Industrial Experien	ice	
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40
Autumn session		
PROC 3008	Materials Processing and Applications	10
MECH 3005	Mechanical Design	10
BBus Major Subjec	ot 6	10
BBus Major Subjec	et 7	10
	Credit Points	40
Year 5		
Spring session		
ENGR 4025	Final Year Project 1 (UG Engineering)	10
MECH 3008	Thermodynamics and Heat Transfer	10
ENGR 3020	Numerical Methods in Engineering	10
BBus Professional	Subject 3	10
	Credit Points	40
Autumn session		
ENGR 4026	Final Year Project 2 (UG Engineering)	10
PROC 4002	Engineering Materials from Waste	10
BBus Professional	Subject 4	10
BBus Major Subjec	ot 8	10
	Credit Points	40
	Total Credit Points	400

Equivalent Subjects

Voor 1

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

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 inta	ike	
Course	Title	Credit
Year 1		Points
Autumn session		
ENGR 1011	Engineering Physics	10
PROC 1006	Materials Engineering Fundamentals	10
ENGR 1024	Introduction to Engineering Practice	10
Select one of the fe	• •	10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	
	Credit Points	40
Spring session	0.00.0	
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10
ELEC 1003	Electrical Fundamentals	10
Select one of the fe		10
MATH 1016	Mathematics for Engineers 1	
MATH 1019	Mathematics for Engineers 2	
	Credit Points	40
Year 2	Cledit Follits	40
Autumn session		
MECH 2003	Mechanics of Materials	10
ELEC 1006	Engineering Computing	10
PROC 2003	Materials Selection and Design	10
ENGR 3029	Specialisation Workshop 1	10
LINGH 3029	Credit Points	40
Curium acceion	Credit Points	40
Spring session ENGR 2016	Daysment Materials and Design	10
ENGR 2032	Pavement Materials and Design Sustainability Analysis and Design	10
MECH 3002	Advanced Mechanics of Materials	10
ENGR 3030	/ taranood moonamoo or matemate	10
	Specialisation Workshop 2	10
Industrial Experient		0
ENGR 2033	Industrial Experience (Engineering Technologist)	0
	Credit Points	40
Year 3		
Autumn session		
ENGR 3013	Engineering Science Project 1	10
PROC 3008	Materials Processing and Applications	10
MECH 2001	Kinematics and Kinetics of Machines	10
Select one elective		10
Elective must I	pe Level 2 or higher	
	Credit Points	40
Spring session		
ENGR 3014	Engineering Science Project 2	10
PROC 4001	Advanced Materials Topics	10
CIVL 3020	Sustainable Waste Engineering	10
Select one elective		10
Elective must I	pe Level 2 or higher	
	Credit Points	40
	Total Credit Points	240

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

Tiela

Mid-year intake

Course	Title	Credit Points
Year 1		Points
Spring session		
Select one of the f	ollowing	10
MATH 1021	Mathematics for Engineers Preliminary	10
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	oreant rounce	
Select one of the f	ollowing:	10
MATH 1019	Mathematics for Engineers 2	
MATH 1016	Mathematics for Engineers 1	
ENGR 1024	Introduction to Engineering Practice	10
ENGR 1011	Engineering Physics	10
PROC 1006	Materials Engineering Fundamentals	10
	Credit Points	40
Year 2	oreant rounce	
Spring session		
ENGR 2032	Sustainability Analysis and Design	10
ENGR 2016	Pavement Materials and Design	10
ENGR 3029	Specialisation Workshop 1	10
Select one elective		10
	be Level 2 or higher	
	de Level 2 di Ingliei	
	Credit Points	40
Autumn session		
PROC 2003	Materials Selection and Design	10
MECH 2003	Mechanics of Materials	10
ELEC 1006	Engineering Computing	10
ENGR 3030	Specialisation Workshop 2	10
Industrial Experier	nce	
ENGR 2033	Industrial Experience (Engineering	0
	Technologist)	40
V0	Credit Points	40
Year 3		
Spring session		
ENGR 3013	Engineering Science Project 1	10
PROC 4001	Advanced Materials Topics	10
CIVL 3020	Sustainable Waste Engineering	10
MECH 3002	Advanced Mechanics of Materials	10
	Credit Points	40
Autumn session		
ENGR 3014	Engineering Science Project 2	10
PROC 3008	Materials Processing and Applications	10
MECH 2001	Kinematics and Kinetics of Machines	10
Select one elective		10

· Elective must be Level 2 or higher

Credit Points	40
Total Credit Points	240

Equivalent Subjects

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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 (Honours) (3740)

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.

Course	Title	Credit Points
Year 1		
Autumn session		
ENGR 1011	Engineering Physics	10
ENGR 1024	Introduction to Engineering Practice	10
PROC 1006	Materials Engineering Fundamentals	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

10

Select one of the f	ollowing:	10
MATH 1016	Mathematics for Engineers 1	
MATH 1019	Mathematics for Engineers 2	
	Credit Points	40
Year 2		
Autumn session		
MECH 2001	Kinematics and Kinetics of Machines	10
MECH 2003	Mechanics of Materials	10
PROC 1006	Materials Engineering Fundamentals	10
PROC 2003	Materials Selection and Design	10
	Credit Points	40
Spring session		
ENGR 2016	Pavement Materials and Design	10
ENGR 2001	Automated Manufacturing	10
ENGR 2032	Sustainability Analysis and Design	10
Select one elective		10
Scient one elective	Credit Points	40
Year 3	Credit Politis	40
Autumn session	Markania I Darima	10
MECH 3005	Mechanical Design	10
PROC 3008	Materials Processing and Applications	10
CIVL 2003	Fluid Mechanics	10
ENGR 2035	Modern Digital Design and Development	10
	Credit Points	40
Spring session		
PROC 4001	Advanced Materials Topics	10
CIVL 3020	Sustainable Waste Engineering	10
MECH 3008	Thermodynamics and Heat Transfer	10
MECH 3002	Advanced Mechanics of Materials	10
Industrial Experien	ce	
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40
Year 4		
Autumn session		
PROC 4002	Engineering Materials from Waste	10
ENGR 4041	Final Year Project 1 (UG Engineering)	20
Select one elective		10
	Credit Points	40
Spring session		
ENGR 4042	Final Year Project 2 (UG Engineering)	20
	es or minor subjects	20
Colect two cleans	Credit Points	40
	Total Credit Points	320
Mid-year intak	re	
Course	Title	Credit
Oddise	riue	Points
Year 1		
Spring session		
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008		10
ENGR 1024	Introduction to Materials Engineering	
	Introduction to Engineering Practice	10
Select one of the fe	unowing.	10
	Made an ation for the site of the Decline	
MATH 1021 MATH 1016	Mathematics for Engineers Preliminary Mathematics for Engineers 1	

Select one of the following:

Autumn session		
ENGR 1011	Engineering Physics	10
ENGR 1024	Introduction to Engineering Practice	10
ELEC 1006	Engineering Computing	10
Select one of the fol		10
MATH 1019	Mathematics for Engineers 2	
MATH 1016	Mathematics for Engineers 1	
	Credit Points	40
Year 2		
Spring session		
ENGR 2001	Automated Manufacturing	10
ENGR 2032	Sustainability Analysis and Design	10
ENGR 2016	Pavement Materials and Design	10
Select one elective of	or minor subject	10
	Credit Points	40
Autumn session		
PROC 2003	Materials Selection and Design	10
MECH 2003	Mechanics of Materials	10
MECH 2001	Kinematics and Kinetics of Machines	10
PROC 1006	Materials Engineering Fundamentals	10
	Credit Points	40
Year 3		
Spring session		
PROC 4001	Advanced Materials Topics	10
CIVL 3020	Sustainable Waste Engineering	10
MECH 3008	Thermodynamics and Heat Transfer	10
MECH 3002	Advanced Mechanics of Materials	10
	Credit Points	40
Autumn session		
MECH 3005	Mechanical Design	10
PROC 3008	Materials Processing and Applications	10
ENGR 2035	Modern Digital Design and Development	10
CIVL 2003	Fluid Mechanics	10
Industrial Experience	e	
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40
Year 4		
Spring session		
ENGR 4041	Final Year Project 1 (UG Engineering)	20
PROC 4002	Engineering Materials from Waste	10
Select one elective of		10
	Credit Points	40
Autumn session		
ENGR 4042	Final Year Project 2 (UG Engineering)	20
Select two electives		20
	Credit Points	40
	Total Credit Points	320

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

Start-year inta	ike	
Course	Title	Credit Points
Year 1		
Autumn session		
MATH 1034	Mathematics for Engineers 1 (Advanced)	10
ENGR 1047	Advanced Engineering Physics 1	10
ENGR 1024	Introduction to Engineering Practice	10
ELEC 1006	Engineering Computing	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		
MECH 2001	Kinematics and Kinetics of Machines	10
MECH 2003	Mechanics of Materials	10
CIVL 2003	Fluid Mechanics	10
PROC 1006	Materials Engineering Fundamentals	10
	Credit Points	40
Spring session		
ENGR 2032	Sustainability Analysis and Design	10
ENGR 2001	Automated Manufacturing	10
PROC 1008	Introduction to Materials Engineering	10
Select one elective		10
of completion of 1 of 200 Credit point	to maintain a minimum GPA of 5.0 at the end 60 Credit Points, and again at the completion is will be automatically transferred to the B. burs) (3740) program.	
	Credit Points	40
Year 3		
Autumn session		
PROC 3008	Materials Processing and Applications	10
MECH 3005	Mechanical Design	10
PROC 2003	Materials Selection and Design	10
BUSM 2049	Creative and Innovative Thinkers	10
	Credit Points	40
Spring session		
PROC 4001	Advanced Materials Topics	10
CIVL 3020	Sustainable Waste Engineering	10
MECH 3008	Thermodynamics and Heat Transfer	10
ENGR 2016	Pavement Materials and Design	10
Industrial Experien	nce	
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40
Year 4		
Autumn session		
PROC 4002	Engineering Materials from Waste	10
ENGR 4043	Advanced Engineering Thesis 1:	20
211011 1010	Preliminary Investigations	
Select one elective	Preliminary Investigations	10

Spring session

	ENGR 4044 Advanced Engineering Thesis 2: Detailed Investigations	20
Select two electives or minor subjects		20
	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 2023 or earlier.

BUSM 2047 Venture Makers Foundations, replaced by BUSM 2049 Creative and Innovative Thinkers

Mid-year intake

CourseTitleCredit PointsYear 1Spring session10MATH 1034Mathematics for Engineers 1 (Advanced)10ENGR 1018Fundamentals of Mechanics10ELEC 1003Electrical Fundamentals10ENGR 2023Advanced Engineering Physics 210Credit Points40Autumn sessionMathematics for Engineers 2 (Advanced)10MATH 1035Mathematics for Engineering Physics 110ENGR 1047Advanced Engineering Physics 110PROC 1006Materials Engineering Fundamentals10ELEC 1006Engineering Computing10ENGR 2001Automated Manufacturing10ENGR 2001Automated Manufacturing10ENGR 2032Sustainability Analysis and Design10PROC 1008Introduction to Materials Engineering10Select one elective or Minor subject10Credit Points40Autumn session10PROC 2003Materials Selection and Design10MECH 2001Kinematics and Kinetics of Machines10MECH 2001Kinematics and Kinetics of Machines10PROC 3008Materials Processing and Applications10Students 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.40Year 3Spring session10PROC 4001Advanced Materials Topics10<	wild year ilitake		
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 ENGR 1047 Advanced Engineering Physics 1 10 PROC 1006 Materials Engineering Fundamentals 10 ELEC 1006 Engineering Computing 10 Credit Points 40 Year 2 Spring session ENGR 2001 Automated Manufacturing 10 ENGR 2032 Sustainability Analysis and Design 10 PROC 1008 Introduction to Materials Engineering 10 Select one elective or Minor subject 10 Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2001 Kinematics	Course	Title	
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 ENGR 1047 Advanced Engineering Physics 1 10 PROC 1006 Materials Engineering Fundamentals 10 ELEC 1006 Engineering Computing 10 Credit Points 40 Year 2 Spring session ENGR 2001 Automated Manufacturing 10 ENGR 2002 Sustainability Analysis and Design 10 PROC 1008 Introduction to Materials Engineering 10 Select one elective or Minor subject 10 Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2001 Kinematics and Kinetics of Machines	Year 1		
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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 ENGR 1047 Advanced Engineering Physics 1 10 PROC 1006 Materials Engineering Fundamentals 10 ELEC 1006 Engineering Computing 10 Credit Points 40 Year 2 Spring session ENGR 2001 Automated Manufacturing 10 ENGR 2032 Sustainability Analysis and Design 10 PROC 1008 Introduction to Materials Engineering 10 Select one elective or Minor subject 10 Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 MECH 2001 Kinematics and Kinetics of Machines	MATH 1034	Mathematics for Engineers 1 (Advanced)	10
ENGR 2023	ENGR 1018	Fundamentals of Mechanics	10
Credit Points 40 Autumn session MATH 1035 Mathematics for Engineers 2 (Advanced) 10 ENGR 1047 Advanced Engineering Physics 1 10 PROC 1006 Materials Engineering Fundamentals 10 ELEC 1006 Engineering Computing 10 Credit Points 40 Year 2 Spring session ENGR 2001 Automated Manufacturing 10 ENGR 2032 Sustainability Analysis and Design 10 PROC 1008 Introduction to Materials Engineering 10 Select one elective or Minor subject 10 Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	ELEC 1003	Electrical Fundamentals	10
Autumn session MATH 1035	ENGR 2023	Advanced Engineering Physics 2	10
MATH 1035 Mathematics for Engineers 2 (Advanced) 10 ENGR 1047 Advanced Engineering Physics 1 10 PROC 1006 Materials Engineering Fundamentals 10 ELEC 1006 Engineering Computing 10 Credit Points 40 Year 2 Spring session ENGR 2001 Automated Manufacturing 10 ENGR 2032 Sustainability Analysis and Design 10 PROC 1008 Introduction to Materials Engineering 10 Select one elective or Minor subject 10 Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10		Credit Points	40
ENGR 1047 Advanced Engineering Physics 1 10 PROC 1006 Materials Engineering Fundamentals 10 ELEC 1006 Engineering Computing 10 Credit Points 40 Year 2 Spring session ENGR 2001 Automated Manufacturing 10 ENGR 2032 Sustainability Analysis and Design 10 PROC 1008 Introduction to Materials Engineering 10 Select one elective or Minor subject 10 Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	Autumn session		
PROC 1006 Materials Engineering Fundamentals ELEC 1006 Engineering Computing 10 Credit Points 40 Year 2 Spring session ENGR 2001 Automated Manufacturing 10 ENGR 2032 Sustainability Analysis and Design 10 PROC 1008 Introduction to Materials Engineering 10 Select one elective or Minor subject 10 Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	MATH 1035	Mathematics for Engineers 2 (Advanced)	10
ELEC 1006 Engineering Computing 10 Credit Points 40 Year 2 Spring session ENGR 2001 Automated Manufacturing 10 ENGR 2032 Sustainability Analysis and Design 10 PROC 1008 Introduction to Materials Engineering 10 Select one elective or Minor subject 10 Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	ENGR 1047	Advanced Engineering Physics 1	10
Credit Points 40 Year 2 Spring session ENGR 2001 Automated Manufacturing 10 ENGR 2032 Sustainability Analysis and Design 10 PROC 1008 Introduction to Materials Engineering 10 Select one elective or Minor subject 10 Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	PROC 1006	Materials Engineering Fundamentals	10
Year 2 Spring session ENGR 2001 Automated Manufacturing 10 ENGR 2032 Sustainability Analysis and Design 10 PROC 1008 Introduction to Materials Engineering 10 Select one elective or Minor subject 10 Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	ELEC 1006	Engineering Computing	10
Spring session ENGR 2001 Automated Manufacturing 10 ENGR 2032 Sustainability Analysis and Design 10 PROC 1008 Introduction to Materials Engineering 10 Select one elective or Minor subject 10 Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10		Credit Points	40
ENGR 2001 Automated Manufacturing 10 ENGR 2032 Sustainability Analysis and Design 10 PROC 1008 Introduction to Materials Engineering 10 Select one elective or Minor subject 10 Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	Year 2		
ENGR 2032 Sustainability Analysis and Design 10 PROC 1008 Introduction to Materials Engineering 10 Select one elective or Minor subject 10 Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	Spring session		
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Select one elective or Minor subject Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	ENGR 2032	Sustainability Analysis and Design	10
Credit Points 40 Autumn session PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	PROC 1008	Introduction to Materials Engineering	10
Autumn session PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	Select one elective o	r Minor subject	10
PROC 2003 Materials Selection and Design 10 MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10		Credit Points	40
MECH 2003 Mechanics of Materials 10 MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	Autumn session		
MECH 2001 Kinematics and Kinetics of Machines 10 PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	PROC 2003	Materials Selection and Design	10
PROC 3008 Materials Processing and Applications 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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	MECH 2003	Mechanics of Materials	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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	MECH 2001	Kinematics and Kinetics of Machines	10
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 PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	PROC 3008	Materials Processing and Applications	10
Year 3 Spring session PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	of completion of 160 of 200 Credit points	Credit Points, and again at the completion will be automatically transferred to the B.	
Spring session PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10		Credit Points	40
PROC 4001 Advanced Materials Topics 10 MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	Year 3		
MECH 3008 Thermodynamics and Heat Transfer 10 ENGR 2016 Pavement Materials and Design 10	Spring session		
ENGR 2016 Pavement Materials and Design 10	PROC 4001	Advanced Materials Topics	10
	MECH 3008	Thermodynamics and Heat Transfer	10
ENGR 1024 Introduction to Engineering Practice 10	ENGR 2016	Pavement Materials and Design	10
	ENGR 1024	Introduction to Engineering Practice	10

Credit Points

Mechanical Design

Creative and Innovative Thinkers

Fluid Mechanics

Autumn session MECH 3005

CIVL 2003

BUSM 2049

40

10

10

Select one elective	ve or minor subject	10
Industrial Experie	ence	
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40
Year 4		
Spring session		
ENGR 4043	Advanced Engineering Thesis 1: Preliminary Investigations	20
CIVL 3020	Sustainable Waste Engineering	10
Select one elective	ve or minor subject	10
	Credit Points	40
	Credit Points	40
Autumn session	Credit Points	40
Autumn session ENGR 4044	Advanced Engineering Thesis 2: Detailed Investigations	20
	Advanced Engineering Thesis 2: Detailed	
ENGR 4044 PROC 4002	Advanced Engineering Thesis 2: Detailed Investigations	20
ENGR 4044 PROC 4002	Advanced Engineering Thesis 2: Detailed Investigations Engineering Materials from Waste	20

Equivalent Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2023 or earlier.

BUSM 2047 Venture Makers Foundations, replaced by BUSM 2049 Creative and Innovative Thinkers

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.

Course	Title	Credit Points
Year 1		Points
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
ELEC 1003	Electrical Fundamentals	10
BBus Core Subject 3		10
	Credit Points	40
Year 2		
Autumn session		
ENGR 1018	Fundamentals of Mechanics	10
BBus Professional Su	ubject 1	10
BBus Professional Su	ubject 2	10
BBus Core Subject 4		10
	Credit Points	40
Spring session		
ENGR 1024	Introduction to Engineering Practice	10

ELEC 1006	Engineering Computing	10
MECH 3008	Thermodynamics and Heat Transfer	10
ENGR 2016	Pavement Materials and Design	10
LINGIT 2010	Credit Points	40
Year 3	Cleuit Follits	40
Autumn session		
PROC 1006	Matariala Engineering Fundamentale	10
	Materials Engineering Fundamentals Kinematics and Kinetics of Machines	
MECH 2001		10
MECH 2003	Mechanics of Materials	10
PROC 2003	Materials Selection and Design	10
	Credit Points	40
Spring session	0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7.0
ENGR 2032	Sustainability Analysis and Design	10
ENGR 2001	Automated Manufacturing	10
BBus Major Subject		10
BBus Major Subjec		10
	Credit Points	40
Year 4		
Autumn session		
PROC 3008	Materials Processing and Applications	10
MECH 3005	Mechanical Design	10
BBus Major Subjec	et 3	10
BBus Major Subject	et 4	10
	Credit Points	40
Spring session		
PROC 4001	Advanced Materials Topics	10
CIVL 3020	Sustainable Waste Engineering	10
BBus Major Subject	et 5	10
BBus Major Subjec	et 6	10
Industrial Experien	ce	
ENGR 3017	Industrial Experience (Engineering)	(
	Credit Points	40
Year 5		
Autumn session		
MECH 3002	Advanced Mechanics of Materials	10
ENGR 2035	Modern Digital Design and Development	10
BBus Major Subjec		10
BBus Major Subject	et 8	10
	Credit Points	40
Spring session		
ENGR 4041	Final Year Project 1 (UG Engineering)	20
BBus Professional		10
BBus Professional	-	10
<u>DDuo i iorecoronar</u>	Credit Points	40
	orealt i onito	70
Year 6		
Year 6		
Autumn session	Final Vear Project 2 (LIC Engineering)	20
Autumn session ENGR 4042	Final Year Project 2 (UG Engineering)	
Autumn session ENGR 4042 PROC 4002	Engineering Materials from Waste	10
Autumn session ENGR 4042		20 10 10

Mid-year intake		
Course	Title	Credit
		Points
Year 1		
Spring session	Made and the few English and 1	10
MATH 1016	Mathematics for Engineers 1 Fundamentals of Mechanics	10
ENGR 1018 BBus Core Subject 1		10
BBus Core Subject 1		10
bbus core subject 2	Credit Points	40
Autumn session	orealt rollits	40
MATH 1019	Mathematics for Engineers 2	10
ENGR 1011	Engineering Physics	10
ENGR 1018	Fundamentals of Mechanics	10
ELEC 1006	Engineering Computing	10
	Credit Points	40
Year 2		
Spring session		
PROC 1008	Introduction to Materials Engineering	10
ELEC 1003	Electrical Fundamentals	10
BBus Core Subject 3		10
BBus Core Subject 4		10
	Credit Points	40
Autumn session		
PROC 1006	Materials Engineering Fundamentals	10
MECH 2001	Kinematics and Kinetics of Machines	10
MECH 2003 PROC 2003	Mechanics of Materials	10
PRUC 2003	Materials Selection and Design Credit Points	10 40
Year 3	Credit Points	40
Spring session		
MECH 3008	Thermodynamics and Heat Transfer	10
ENGR 2016	Pavement Materials and Design	10
BBus Professional S	•	10
BBus Professional S	Subject 2	10
	Credit Points	40
Autumn session		
PROC 3008	Materials Processing and Applications	10
MECH 3005	Mechanical Design	10
BBus Major Subject	1	10
BBus Major Subject	2	10
	Credit Points	40
Year 4		
Spring session		
ENGR 2032	Sustainability Analysis and Design	10
ENGR 2001	Automated Manufacturing	10
BBus Major Subject		10
BBus Major Subject		10
A	Credit Points	40
Autumn session MECH 3002	Advanced Mechanics of Materials	10
ENGR 2035		10
BBus Major Subject	Modern Digital Design and Development	10
BBus Major Subject		10
Industrial Experienc		10
uuddiai Experienc		

ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40
Year 5		
Spring session		
PROC 4001	Advanced Materials Topics	10
CIVL 3020	Sustainable Waste Engineering	10
BBus Major Subject	7	10
BBus Major Subject 8		
	Credit Points	40
Autumn session		
ENGR 4041	Final Year Project 1 (UG Engineering)	20
PROC 4002	Engineering Materials from Waste	10
CIVL 2003	Fluid Mechanics	10
	Credit Points	40
Year 6		
Spring session		
ENGR 4042	Final Year Project 2 (UG Engineering)	20
BBus Professional Subject 3		
BBus Professional Subject 4		
	Credit Points	40
	Total Credit Points	440

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.

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	
ELEC 1003 Electrical Fundamentals	g 10 10
Select one of the following:	10
3	10
MATH 1016 Mathematics for Engineers 1	
MATH 1019 Mathematics for Engineers 2 Credit Points	40
• • • • • • • • • • • • • • • • • • • •	40
Year 2	
Autumn session	10
MECH 2003 Mechanics of Materials	10
PROC 1006 Materials Engineering Fundamentals	
PROC 2003 Materials Selection and Design	10
ENGR 3029 Specialisation Workshop 1	10
Credit Points	40
Spring session	
ENGR 2016 Pavement Materials and Design	10
ENGR 2032 Sustainability Analysis and Design	10
MECH 3002 Advanced Mechanics of Materials	10
ENGR 3030 Specialisation Workshop 2	10
Industrial Experience	
ENGR 2033 Industrial Experience (Engineering Technologist)	0
Credit Points	40
Year 3	
Autumn session	
ENGR 3013 Engineering Science Project 1	10
PROC 3008 Materials Processing and Application	ns 10
MECH 2001 Kinematics and Kinetics of Machine	
Select one elective	10
Credit Points	40
Spring session	
ENGR 3014 Engineering Science Project 2	10
PROC 4001 Advanced Materials Topics	10
CIVL 3020 Sustainable Waste Engineering	10
Select one elective	10
	10
Elective must be Level 2 or higher	
Credit Points	40
Total Credit Points	240
Mid-year intake	
Course Title	Credit Points
Year 1	
Spring session	
Spring session ENGR 1018 Fundamentals of Mechanics	10
Spring session ENGR 1018 Fundamentals of Mechanics PROC 1008 Introduction to Materials Engineering	
Spring session ENGR 1018 Fundamentals of Mechanics	
Spring session ENGR 1018 Fundamentals of Mechanics PROC 1008 Introduction to Materials Engineering	g 10
Spring session ENGR 1018 Fundamentals of Mechanics PROC 1008 Introduction to Materials Engineering ELEC 1003 Electrical Fundamentals	g 10 10

Introduction to Engineering Practice

Engineering Computing

Engineering Physics

Credit Points

Autumn session ELEC 1006

ENGR 1011

ENGR 1024

Select one of the following:		
MATH 1019	Mathematics for Engineers 2	
MATH 1016	Mathematics for Engineers 1	
	Credit Points	40
Year 2		
Spring session		
ENGR 2032	Sustainability Analysis and Design	10
ENGR 2016	Pavement Materials and Design	10
ENGR 3029	Specialisation Workshop 1	10
Select one elective		10
 Elective must b 	e Level 2 or higher	
	Credit Points	40
Autumn session		
PROC 2003	Materials Selection and Design	10
MECH 2003	Mechanics of Materials	10
PROC 1006	Materials Engineering Fundamentals	10
ENGR 3030	Specialisation Workshop 2	10
Industrial Experien	ce	
ENGR 2033	Industrial Experience (Engineering Technologist)	0
	Credit Points	40
Year 3		
Spring session		
ENGR 3013	Engineering Science Project 1	10
PROC 4001	Advanced Materials Topics	10
CIVL 3020	Sustainable Waste Engineering	10
MECH 3002	Advanced Mechanics of Materials	10
	Credit Points	40
Autumn session		
ENGR 3014	Engineering Science Project 2	10
PROC 3008	Materials Processing and Applications	10
MECH 2001	Kinematics and Kinetics of Machines	10
Select one elective		10
	Credit Points	40
	Total Credit Points	240

Related Programs

40

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10

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Bachelor of Engineering (Honours)/Bachelor of Business (3728) (https://hbook.westernsydney.edu.au/programs/bachelor-engineeringhonours-bachelor-business/)

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

hbook.westernsydney.edu.au/programs/bachelor-engineeringhonours/)

Bachelor of Engineering Advanced (Honours) (3771) (https:// hbook.westernsydney.edu.au/programs/bachelor-engineeringadvanced-honours/)

Bachelor of Engineering Science (3691) (https:// hbook.westernsydney.edu.au/programs/bachelor-engineeringscience/)