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
Parramatta City Campus-Macquarie Street	Internal	Program Advice (edbe@westernsydney.edu.au)
Penrith Campus	Internal	Program Advice (edbe@westernsydney.edu.au)

Major Sequence Current

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.

**** Electives** must be Level 2 or higher (An exception applies for students completing MATH 1021 Mathematics for Engineers Preliminary. This subject will then count as one of the elective subjects)

Start-year intake

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
Select one of the following:		10
MATH 1016	Mathematics for Engineers 1	
MATH 1019	Mathematics for Engineers 2	
	Credit Points	**40**
Year 2		
Autumn session		
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** or minor subject		10
	Credit Points	**40**
Year 3		
Autumn session		
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 4021	Sustainable Waste Engineering	10
MECH 3008	Thermodynamics and Heat Transfer	10
MECH 3002	Advanced Mechanics of Materials	10
Industrial Experience		
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** or minor subject		10
	Credit Points	**40**
Spring session		
ENGR 4042	Final Year Project 2 (UG Engineering)	20
Select two electives** or minor subjects		20
	Credit Points	**40**
	Total Credit Points	**320**

Mid-year intake

Course	Title	Credit Points
Year 1		
Spring session		
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10
ENGR 1024	Introduction to Engineering Practice	10
Select one of the following:		10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	
	Credit Points	**40**
Autumn session		
ENGR 1011	Engineering Physics	10
ENGR 1024	Introduction to Engineering Practice	10
ELEC 1006	Engineering Computing	10
Select one of the following:		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** 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 4021	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		
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** or minor subject		10
	Credit Points	**40**
Autumn session		
ENGR 4042	Final Year Project 2 (UG Engineering)	20
Select two electives** or minor subjects		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.

** **Electives** must be Level 2 or higher

Start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
MATH 1034	Mathematics for Engineers 1 (Advanced)	10
ENGR 1047	Advanced Engineering Physics 1	10
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** or Minor subject		10
Students who fail to maintain a minimum GPA of 5.0 at the end of completion of 160 Credit Points, and again at the completion of 200 Credit points will be automatically transferred to the B. Engineering (Honours) (3740) program.		
	Credit Points	**40**

Year 3		
Autumn session		
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 4021	Sustainable Waste Engineering	10
MECH 3008	Thermodynamics and Heat Transfer	10
ENGR 2016	Pavement Materials and Design	10
Industrial Experience		
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: Preliminary Investigations	20
Select one elective** or minor subject		10
	Credit Points	**40**
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

Course	Title	Credit Points
Year 1		
Spring session		
MATH 1034	Mathematics for Engineers 1 (Advanced)	10
ENGR 1018	Fundamentals of Mechanics	10
ELEC 1003	Electrical Fundamentals	10
ENGR 2023	Advanced Engineering Physics 2	10
	Credit Points	**40**
Autumn session		
MATH 1035	Mathematics for Engineers 2 (Advanced)	10
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
ENGR 1024	Introduction to Engineering Practice	10
	Credit Points	**40**
Autumn session		
MECH 3005	Mechanical Design	10
CIVL 2003	Fluid Mechanics	10
BUSM 2049	Creative and Innovative Thinkers	10
Select one elective** or minor subject		10
Industrial Experience		
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	**40**
Year 4		
Spring session		
ENGR 4043	Advanced Engineering Thesis 1: Preliminary Investigations	20
CIVL 4021	Sustainable Waste Engineering	10
Select one elective** or minor subject		10
	Credit Points	**40**
Autumn session		
ENGR 4044	Advanced Engineering Thesis 2: Detailed Investigations	20
PROC 4002	Engineering Materials from Waste	10
Select one elective** or minor subject		10
	Credit Points	**40**
	Total Credit Points	**320**

Equivalent Subjects

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

Start-year intake

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
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 Subject 1		10
BBus Professional Subject 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
	Credit Points	**40**
Year 3		
Autumn session		
PROC 1006	Materials Engineering Fundamentals	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
BBus Major Subject 1		10
BBus Major Subject 2		10
	Credit Points	**40**
Year 4		
Autumn session		
PROC 3008	Materials Processing and Applications	10
MECH 3005	Mechanical Design	10
BBus Major Subject 3		10
BBus Major Subject 4		10
	Credit Points	**40**
Spring session		
PROC 4001	Advanced Materials Topics	10
CIVL 4021	Sustainable Waste Engineering	10
BBus Major Subject 5		10
BBus Major Subject 6		10
Industrial Experience		
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	**40**
Year 5		
Autumn session		
MECH 3002	Advanced Mechanics of Materials	10
ENGR 2035	Modern Digital Design and Development	10
BBus Major Subject 7		10
BBus Major Subject 8		10
	Credit Points	**40**
Spring session		
ENGR 4041	Final Year Project 1 (UG Engineering)	20
BBus Professional Subject 3		10
BBus Professional Subject 4		10
	Credit Points	**40**
Year 6		
Autumn session		
ENGR 4042	Final Year Project 2 (UG Engineering)	20
PROC 4002	Engineering Materials from Waste	10
CIVL 2003	Fluid Mechanics	10
	Credit Points	**40**
	Total Credit Points	**440**

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
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	Mechanics of Materials	10
PROC 2003	Materials Selection and Design	10
	Credit Points	**40**
Year 3		
Spring session		
MECH 3008	Thermodynamics and Heat Transfer	10
ENGR 2016	Pavement Materials and Design	10
BBus Professional Subject 1		10

BBus Professional 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 3		10
BBus Major Subject 4		10
	Credit Points	**40**
Autumn session		
MECH 3002	Advanced Mechanics of Materials	10
ENGR 2035	Modern Digital Design and Development	10
BBus Major Subject 5		10
BBus Major Subject 6		10
Industrial Experience		
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	**40**
Year 5		
Spring session		
PROC 4001	Advanced Materials Topics	10
CIVL 4021	Sustainable Waste Engineering	10
BBus Major Subject 7		10
BBus Major Subject 8		10
	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		10
BBus Professional Subject 4		10
	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.

Start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
ELEC 1006	Engineering Computing	10
ENGR 1011	Engineering Physics	10
ENGR 1024	Introduction to Engineering Practice	10
Select one of the following:		10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	
	Credit Points	**40**
Spring session		
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10
ELEC 1003	Electrical Fundamentals	10
Select one of the following:		10
MATH 1016	Mathematics for Engineers 1	
MATH 1019	Mathematics for Engineers 2	
	Credit Points	**40**
Year 2		
Autumn session		
MECH 2003	Mechanics of Materials	10
PROC 1006	Materials Engineering Fundamentals	10
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 Applications	10
MECH 2001	Kinematics and Kinetics of Machines	10
Select one elective		10
	Credit Points	**40**
Spring session		
ENGR 3014	Engineering Science Project 2	10
PROC 4001	Advanced Materials Topics	10
CIVL 4021	Sustainable Waste Engineering	10
Select one elective		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		
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10
ELEC 1003	Electrical Fundamentals	10
Select one of the following:		10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	
	Credit Points	**40**
Autumn session		
ELEC 1006	Engineering Computing	10
ENGR 1011	Engineering Physics	10
ENGR 1024	Introduction to Engineering Practice	10
Select one of the following:		10
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 be 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 Experience		
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 4021	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**

Major 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

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 following:		10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	
	Credit Points	**40**
Spring session		
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10
Select one elective		10
Select one of the following:		10
MATH 1016	Mathematics for Engineers 1	
MATH 1019	Mathematics for Engineers 2	
	Credit Points	**40**
Year 2		
Autumn session		
MECH 2001	Kinematics and Kinetics of Machines	10

MECH 2003	Mechanics of Materials	10
ELEC 1006	Engineering Computing	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
MECH 3002	Advanced Mechanics of Materials	10
	Credit Points	**40**
Year 3		
Autumn session		
MECH 3005	Mechanical Design	10
PROC 3008	Materials Processing and Applications	10
CIVL 2003	Fluid Mechanics	10
Select one elective		10
• Elective must be Level 2 or higher		
	Credit Points	**40**
Spring session		
PROC 4001	Advanced Materials Topics	10
MECH 3008	Thermodynamics and Heat Transfer	10
CIVL 4021	Sustainable Waste Engineering	10
Select one Alternate Subject		10
Industrial Experience		
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	**40**
Year 4		
Autumn session		
PROC 4002	Engineering Materials from Waste	10
ENGR 4025	Final Year Project 1 (UG Engineering)	10
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**

Alternate Subjects

Subject	Title	Credit Points
BIOS 1022	Introduction to Human Biology	10
BIOS 1035	Anatomy and Physiology in Health	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
ENGR 2035	Modern Digital Design and Development	10
ENGR 3033	Digital Manufacturing and IIoT	10
ENGR 4039	Design for Advanced Manufacturing	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/archives/2024-2025/majors-minors/biomedical-engineering-minor/)
Indigenous Australian Studies, Minor (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/indigenous-australian-studies-minor/)
Sustainability Engineering, Minor (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/sustainability-engineering-minor/)
Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/advanced-manufacturing-minor/)

Equivalent Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2020 or earlier.

BIOS 1022 Introduction to Human Biology, replaced by BIOS 1035 Anatomy and Physiology in Health

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

Replaced Subjects

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

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste Engineering

Mid-year intake

Course	Title	Credit Points
Year 1		
Spring session		
Select one of the following:		10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10

ENGR 1024	Introduction to Engineering Practice	10
	Credit Points	**40**
Autumn session		
Select one of the following:		10
MATH 1019	Mathematics for Engineers 2	
MATH 1016	Mathematics for Engineers 1	
ENGR 1011	Engineering Physics	10
PROC 1006	Materials Engineering Fundamentals	10
Select one elective		10
• Elective unit must 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 must 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
MECH 3008	Thermodynamics and Heat Transfer	10
CIVL 4021	Sustainable Waste Engineering	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 Subject		10
Industrial Experience		
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	**40**
Year 4		
Spring session		
ENGR 4025	Final Year Project 1 (UG Engineering)	10
One Alternate subject		10
One Alternate subject		10
Select one elective		10
• Elective unit must be 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
BIOS 1035	Anatomy and Physiology in Health	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
ENGR 2035	Modern Digital Design and Development	10
ENGR 3033	Digital Manufacturing and IIoT	10
ENGR 4039	Design for Advanced Manufacturing	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/archives/2024-2025/majors-minors/biomedical-engineering-minor/)
Indigenous Australian Studies, Minor (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/indigenous-australian-studies-minor/)
Sustainability Engineering, Minor (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/sustainability-engineering-minor/)
Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/advanced-manufacturing-minor/)

Equivalent Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2020 or earlier.

BIOS 1022 Introduction to Human Biology, replaced by BIOS 1035 Anatomy and Physiology in Health

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

Replaced Subjects

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

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste 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

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 Mechatronic Engineers	10
ENGR 2032	Sustainability Analysis and Design	10
ENGR 2016	Pavement Materials and Design	10
ENGR 2001	Automated Manufacturing	10
Students who fail to maintain a minimum GPA of 5.0 at the end of completion of 160 Credit Points, and again at the completion of 200 Credit points will be automatically transferred to the B. Engineering (Honours) (3740) program.		
	Credit Points	**40**
Year 3		
Autumn session		
PROC 3008	Materials Processing and Applications	10
MECH 3005	Mechanical Design	10
CIVL 2003	Fluid Mechanics	10
One Alternate Subject		10
	Credit Points	**40**
Spring session		
PROC 4001	Advanced Materials Topics	10
MECH 3008	Thermodynamics and Heat Transfer	10
CIVL 4021	Sustainable Waste Engineering	10
Select one elective		10

- Electives must be Level 2 or higher

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 must be Level 2 or higher

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

- Elective subjects 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
BIOS 1035	Anatomy and Physiology in Health	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
ENGR 2035	Modern Digital Design and Development	10
ENGR 3033	Digital Manufacturing and IIoT	10
ENGR 4039	Design for Advanced Manufacturing	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/archives/2024-2025/majors-minors/biomedical-engineering-minor/)
Indigenous Australian Studies, Minor (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/indigenous-australian-studies-minor/)
Sustainability Engineering, Minor (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/sustainability-engineering-minor/)
Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/advanced-manufacturing-minor/)

Equivalent Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2020 or earlier.

BIOS 1022 Introduction to Human Biology, replaced by BIOS 1035 Anatomy and Physiology in Health

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

Replaced Subjects

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

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste 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 must 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
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
CIVL 4021	Sustainable Waste Engineering	10
Select one elective		10
• Elective unit must be Level 2 or higher		
	Credit Points	**40**
Autumn session		
ELEC 1006	Engineering Computing	10
MECH 3005	Mechanical Design	10
CIVL 2003	Fluid Mechanics	10
One Alternate subject		10
Industrial Experience		
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	**40**
Year 4		
Spring session		
ENGR 4037	Advanced Engineering Thesis 1: Preliminary Investigations	10
One Alternate subject		10
One Alternate subject		10
Select one elective		10
• Elective unit must be Level 2 or higher		
	Credit Points	**40**
Autumn session		
ENGR 4036	Advanced Engineering Thesis 2: Detailed Investigations	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
BIOS 1035	Anatomy and Physiology in Health	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
ENGR 2035	Modern Digital Design and Development	10
ENGR 3033	Digital Manufacturing and IIoT	10
ENGR 4039	Design for Advanced Manufacturing	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/archives/2024-2025/majors-minors/biomedical-engineering-minor/)
Indigenous Australian Studies, Minor (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/indigenous-australian-studies-minor/)
Sustainability Engineering, Minor (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/sustainability-engineering-minor/)
Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/archives/2024-2025/majors-minors/advanced-manufacturing-minor/)

Equivalent Subjects

The subjects listed below count towards completion of this program for students who passed these subjects in 2020 or earlier.

BIOS 1022 Introduction to Human Biology, replaced by BIOS 1035 Anatomy and Physiology in Health

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

Replaced Subjects

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

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste Engineering

Bachelor of Engineering (Honours)/ Bachelor of Business (3728)

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

Start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
MATH 1016	Mathematics for Engineers 1	10
ENGR 1011	Engineering Physics	10
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		
PROC 1006	Materials Engineering Fundamentals	10
BBus Professional Subject 1		10
BBus Professional Subject 2		10
BBus Major Subject 1		10
	Credit Points	**40**
Spring session		
PROC 1008	Introduction to Materials Engineering	10
ELEC 1003	Electrical Fundamentals	10
BBus Major Subject 2		10
BBus Major Subject 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 Subject 4		10
BBus Major Subject 5		10
	Credit Points	**40**
Spring session		
PROC 4001	Advanced Materials Topics	10
CIVL 4021	Sustainable Waste Engineering	10
BBus Major Subject 6		10
BBus Major Subject 7		10
Industrial Experience		
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	**40**
Year 5		
Autumn session		
ENGR 4025	Final Year Project 1 (UG Engineering)	10
PROC 4002	Engineering Materials from Waste	10
BBus Professional Subject 3		10
BBus Major Subject 8		10
	Credit Points	**40**
Spring session		
ENGR 4026	Final Year Project 2 (UG Engineering)	10
MECH 3008	Thermodynamics and Heat Transfer	10
ENGR 3020	Numerical Methods in Engineering	10
BBus Professional Subject 4		10
	Credit Points	**40**
	Total Credit Points	**400**

Equivalent Subjects

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

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

Replaced Subjects

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

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste 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		10
	Credit Points	**40**
Autumn session		
PROC 1006	Materials Engineering Fundamentals	10
BBus Professional Subject 1		10
BBus Professional Subject 2		10
BBus Major Subject 3		10
	Credit Points	**40**
Year 3		
Spring session		
ENGR 2032	Sustainability Analysis and Design	10
ENGR 2001	Automated Manufacturing	10
PROC 2003	Materials Selection and Design	10
CIVL 4021	Sustainable Waste Engineering	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 4		10
BBus Major Subject 5		10
Industrial Experience		
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 Subject 6		10
BBus Major Subject 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 Subject 8		10
	Credit Points	**40**
	Total Credit Points	**400**

Equivalent Subjects

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

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

Replaced Subjects

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

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste 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 intake

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 following:		10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	
	Credit Points	**40**
Spring session		
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10
ELEC 1003	Electrical Fundamentals	10
Select one of the following:		10
MATH 1016	Mathematics for Engineers 1	
MATH 1019	Mathematics for Engineers 2	
	Credit Points	**40**
Year 2		
Autumn session		
MECH 2003	Mechanics of Materials	10
ELEC 1006	Engineering Computing	10
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 Applications	10
MECH 2001	Kinematics and Kinetics of Machines	10
Select one elective		10
• Elective must be Level 2 or higher		
	Credit Points	**40**
Spring session		
ENGR 3014	Engineering Science Project 2	10
PROC 4001	Advanced Materials Topics	10
CIVL 4021	Sustainable Waste Engineering	10
Select one elective		10
• Elective must be 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

Replaced Subjects

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

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste Engineering

Mid-year intake

Course	Title	Credit Points
Year 1		
Spring session		
Select one of the following:		10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	

ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10
ELEC 1003	Electrical Fundamentals	10
	Credit Points	**40**
Autumn session		
Select one of the following:		10
MATH 1019	Mathematics for Engineers 2	
MATH 1016	Mathematics for Engineers 1	
ENGR 1024	Introduction to Engineering Practice	10
ENGR 1011	Engineering Physics	10
PROC 1006	Materials Engineering Fundamentals	10
	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 be Level 2 or higher		
	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 Experience		
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 4021	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

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

Replaced Subjects

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

CIVL 3020 Sustainable Waste Engineering, replaced by CIVL 4021 Sustainable Waste Engineering

Related Programs

Bachelor of Engineering (Honours)/Bachelor of Business (3728) (https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-engineering-honours-bachelor-business/)

Bachelor of Engineering (Honours) (3740) (https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-engineering-honours/)

Bachelor of Engineering Advanced (Honours) (3771) (https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-engineering-advanced-honours/)

Bachelor of Engineering Science (3691) (https://hbook.westernsydney.edu.au/archives/2024-2025/programs/bachelor-engineering-science/)