

MECHANICAL ENGINEERING, TESTAMUR MAJOR (T103)

Western Sydney University Major Code: T103

Previous Code: KT3173.1, MT3054

Available to students in other Western Sydney University programs?

No

Mechanical engineering is a dynamic area involving the design and build of moving machines including engines that power transportation, industrial machinery, and a range of tools. Students put the core concepts of mechanical engineering, energy, thermodynamics, mechanics, kinematics, and fluid mechanics, into practical application in workshops, industry projects, and work integrated learning. Students design and construct machines and tools, monitor and evaluate their performance. Employment opportunities include automotive or mechanical engineer, control and instrumentation engineer. All students complete a mandatory industrial placement. The completion of this major includes a mandatory industry placement of 300 or 450 hours in duration, depending upon the program undertaken.

Location

Campus	Mode	Advice
Parramatta City	Internal	Major Advice (edbe@westernsydney.edu.au)
Campus - Macquarie Street		
Parramatta Campus - Victoria Road	Internal	Major Advice (edbe@westernsydney.edu.au)
Penrith Campus	Internal	Major Advice (edbe@westernsydney.edu.au)
Sydney City Campus*	Internal	Major Advice (p.lendrum@city.westerns

* Curriculum delivered through an agreement with another party

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 Advanced (Honours) (3771)

This Major will be offered at Engineering Innovation Hub which is part of Parramatta City campus.

Qualification for this award requires the successful completion of 320 credit points which include the subjects listed 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 1024	Introduction to Engineering Practice	10
ENGR 1047	Advanced Engineering Physics 1	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		
ENGR 2035	Modern Digital Design and Development	10
MECH 2003	Mechanics of Materials	10
MECH 2001	Kinematics and Kinetics of Machines	10
CIVL 2003	Fluid Mechanics	10
Credit Points		40
Spring session		
MECH 3008	Thermodynamics and Heat Transfer	10
ENGR 2025	Design Graphics: Engineering Documentation	10
ENGR 2001	Automated Manufacturing	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 2003	Materials Selection and Design	10
MECH 3005	Mechanical Design	10
BUSM 2049	Creative and Innovative Thinkers	10
Select one elective** or Minor subject		10
Credit Points		40
Spring session		
MECH 3007	Thermal and Fluid Engineering	10
MECH 3006	Mechatronic Design	10
MECH 3004	Dynamics of Mechanical Systems	10
MECH 3002	Advanced Mechanics of Materials	10
Industrial Experience		
ENGR 3017	Industrial Experience (Engineering)	0
Credit Points		40
Year 4		
Autumn session		
ENGR 4043	Advanced Engineering Thesis 1: Preliminary Investigations	20
MECH 4004	Robotics	10
Select one elective** or Minor subject		10
Credit Points		40

Spring session

ENGR 4044	Advanced Engineering Thesis 2: Detailed Investigations	20
MECH 4002	Computer Aided Engineering	10
Select one elective** or Minor subject		10
Credit Points	40	
Total Credit Points	320	

Subject	Title	Credit Points

Optional Electives

The following subject is an optional elective subject offered to students who are engaged in a School approved project.

This subject can be taken during the third year of this program, however, permission is required to enrol in the subject.

ENGR 3022	Special Technical Project	10
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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
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Autumn session

MATH 1035	Mathematics for Engineers 2 (Advanced)	10
ENGR 1024	Introduction to Engineering Practice	10
ENGR 1047	Advanced Engineering Physics 1	10
ELEC 1006	Engineering Computing	10

Credit Points	40
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Year 2**Spring session**

MECH 3008	Thermodynamics and Heat Transfer	10
ENGR 2025	Design Graphics: Engineering Documentation	10
ENGR 2001	Automated Manufacturing	10
Select one elective** or Minor subject		10

Credit Points	40
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Autumn session

MECH 2003	Mechanics of Materials	10
ENGR 2035	Modern Digital Design and Development	10
MECH 2001	Kinematics and Kinetics of Machines	10
CIVL 2003	Fluid Mechanics	10

Students who fail to maintain a minimum GPA of 5.0 at the end of completion of 160 Credit Points, and again at the completion of 200 Credit points will be automatically transferred to the B. Engineering (Honours) (3740) program.

Credit Points	40
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Year 3**Spring session**

MECH 3007	Thermal and Fluid Engineering	10
MECH 3006	Mechatronic Design	10
MECH 3004	Dynamics of Mechanical Systems	10
MECH 3002	Advanced Mechanics of Materials	10

Credit Points**40****Autumn session**

PROC 2003	Materials Selection and Design	10
MECH 3005	Mechanical Design	10
BUSM 2049	Creative and Innovative Thinkers	10
Select one elective** or Minor subject		10

Industrial Experience

ENGR 3017	Industrial Experience (Engineering)	0
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Credit Points**40****Year 4****Spring session**

ENGR 4043	Advanced Engineering Thesis 1: Preliminary Investigations	20
MECH 4002	Computer Aided Engineering	10
Select one elective** or Minor subject		10

Credit Points**40****Autumn session**

ENGR 4044	Advanced Engineering Thesis 2: Detailed Investigations	20
MECH 4004	Robotics	10
Select one elective** or Minor subject		10
Total Credit Points	320	

Subject**Title****Credit Points****Optional Electives**

The following subject is an optional elective subject offered to students who are engaged in a School approved project.

This subject can be taken during the third year of this program, however, permission is required to enrol in the subject.

ENGR 3022	Special Technical Project	10
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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) (3740)

This Major will be offered at Engineering Innovation Hub which is part of Parramatta City campus, Penrith and Sydney City campuses.

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

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		
			Select one elective** or Minor subject	10
			Select one elective** or Minor subject	10
			Credit Points	40
			Total Credit Points	320
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 2001	Kinematics and Kinetics of Machines	10		
MECH 2003	Mechanics of Materials	10		
CIVL 2003	Fluid Mechanics	10		
ENGR 2035	Modern Digital Design and Development	10		
	Credit Points	40		
Spring session				
MECH 3004	Dynamics of Mechanical Systems	10		
ENGR 2001	Automated Manufacturing	10		
MECH 3008	Thermodynamics and Heat Transfer	10		
MECH 3002	Advanced Mechanics of Materials	10		
	Credit Points	40		
Year 3				
Autumn session				
MECH 3005	Mechanical Design	10		
MECH 3001	Advanced Dynamics	10		
PROC 2003	Materials Selection and Design	10		
Select one elective** or Minor subject		10		
Industrial Experience				
ENGR 3017	Industrial Experience (Engineering)	0		
	Credit Points	40		
Spring session				
MECH 3007	Thermal and Fluid Engineering	10		
MECH 4002	Computer Aided Engineering	10		
MECH 3006	Mechatronic Design	10		
Select one elective** or Minor subject		10		
	Credit Points	40		
Year 4				
Autumn session				
MECH 4001	Computational Fluid Dynamics	10		
MECH 4004	Robotics	10		
ENGR 4041	Final Year Project 1 (UG Engineering)	20		
	Credit Points	40		
Spring session				
ENGR 4042	Final Year Project 2 (UG Engineering)	20		
	Credit Points	40		
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 1016	Mathematics for Engineers 1			
MATH 1019	Mathematics for Engineers 2			
	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 1021	Mathematics for Engineers Preliminary			
MATH 1016	Mathematics for Engineers 1			
	Credit Points	40		
Year 2				
Spring session				
ENGR 2001	Automated Manufacturing	10		
MECH 3008	Thermodynamics and Heat Transfer	10		
Select one elective or Minor subject		10		
Select one elective or Minor subject		10		
	Credit Points	40		
Autumn session				
MECH 2001	Kinematics and Kinetics of Machines	10		
MECH 2003	Mechanics of Materials	10		
CIVL 2003	Fluid Mechanics	10		
ENGR 2035	Modern Digital Design and Development	10		
	Credit Points	40		
Year 3				
Spring session				
MECH 3007	Thermal and Fluid Engineering	10		
MECH 3002	Advanced Mechanics of Materials	10		
MECH 4002	Computer Aided Engineering	10		
MECH 3004	Dynamics of Mechanical Systems	10		
	Credit Points	40		
Autumn session				
MECH 3005	Mechanical Design	10		
MECH 3001	Advanced Dynamics	10		
PROC 2003	Materials Selection and Design	10		
MECH 4001	Computational Fluid Dynamics	10		
	Credit Points	40		
Industrial Experience				
ENGR 3017	Industrial Experience (Engineering)	0		
	Credit Points	40		
Year 4				
Spring session				
MECH 3007	Thermal and Fluid Engineering	10		
MECH 3002	Advanced Mechanics of Materials	10		
MECH 4002	Computer Aided Engineering	10		
MECH 3004	Dynamics of Mechanical Systems	10		
	Credit Points	40		
Autumn session				
MECH 3005	Mechanical Design	10		
MECH 3001	Advanced Dynamics	10		
PROC 2003	Materials Selection and Design	10		
MECH 4001	Computational Fluid Dynamics	10		
	Credit Points	40		
Industrial Experience				
ENGR 3017	Industrial Experience (Engineering)	0		
	Credit Points	40		
Year 4				
Spring session				
MECH 3006	Mechatronic Design	10		

ENGR 4041	Final Year Project 1 (UG Engineering)	20	MECH 3001	Advanced Dynamics	10
Select one elective or Minor subject		10	ENGR 3013	Engineering Science Project 1	10
Credit Points	40		ENGR 2035	Modern Digital Design and Development	10
Autumn session			Credit Points	40	
MECH 4004	Robotics	10	Spring session		
ENGR 4042	Final Year Project 2 (UG Engineering)	20	MECH 3007	Thermal and Fluid Engineering	10
Select one elective or Minor subject		10	ENGR 3014	Engineering Science Project 2	10
Credit Points	40		Select two electives (Level 2 or higher)		20
Total Credit Points	320		Credit Points	40	
			Total Credit Points	240	

Bachelor of Engineering Science

This Major will be offered at Engineering Innovation Hub which is part of Parramatta City campus, Penrith and Sydney City campuses.

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

Start-year intake

Course	Title	Credit Points	Course	Title	Credit Points
Year 1			Year 1		
Autumn session			Spring session		
ELEC 1006	Engineering Computing	10	ENGR 1018	Fundamentals of Mechanics	10
ENGR 1011	Engineering Physics	10	PROC 1008	Introduction to Materials Engineering	10
ENGR 1024	Introduction to Engineering Practice	10	ELEC 1003	Electrical Fundamentals	10
Select one of the following		10	Select one of the following		10
MATH 1021	Mathematics for Engineers Preliminary		MATH 1016	Mathematics for Engineers 1	
MATH 1016	Mathematics for Engineers 1		MATH 1019	Mathematics for Engineers 2	
Credit Points	40		Credit Points	40	
Spring session			Autumn session		
ENGR 1018	Fundamentals of Mechanics	10	ELEC 1006	Engineering Computing	10
PROC 1008	Introduction to Materials Engineering	10	ENGR 1011	Engineering Physics	10
ELEC 1003	Electrical Fundamentals	10	ENGR 1024	Introduction to Engineering Practice	10
Select one of the following		10	Select one of the following		10
MATH 1016	Mathematics for Engineers 1		MATH 1021	Mathematics for Engineers Preliminary	
MATH 1019	Mathematics for Engineers 2		MATH 1016	Mathematics for Engineers 1	
Credit Points	40		Credit Points	40	
Year 2			Year 2		
Autumn session			Spring session		
MECH 2001	Kinematics and Kinetics of Machines	10	ENGR 2001	Automated Manufacturing	10
MECH 2003	Mechanics of Materials	10	MECH 3008	Thermodynamics and Heat Transfer	10
CIVL 2003	Fluid Mechanics	10	ENGR 3029	Specialisation Workshop 1	10
ENGR 3029	Specialisation Workshop 1	10	Select one elective (Level 2 or higher)		10
Credit Points	40		Credit Points	40	
Spring session			Autumn session		
MECH 3004	Dynamics of Mechanical Systems	10	MECH 2001	Kinematics and Kinetics of Machines	10
ENGR 2001	Automated Manufacturing	10	MECH 2003	Mechanics of Materials	10
MECH 3008	Thermodynamics and Heat Transfer	10	CIVL 2003	Fluid Mechanics	10
ENGR 3030	Specialisation Workshop 2	10	ENGR 3030	Specialisation Workshop 2	10
Industrial Experience			Industrial Experience		
ENGR 2033	Industrial Experience (Engineering Technologist)	0	ENGR 2033	Industrial Experience (Engineering Technologist)	0
Credit Points	40		Credit Points	40	
Year 3			Year 3		
Autumn session			Spring session		
MECH 3005	Mechanical Design	10	MECH 3007	Thermal and Fluid Engineering	10
Credit Points	40		MECH 4002	Computer Aided Engineering	10
Autumn session			ENGR 3013	Engineering Science Project 1	10
MECH 3005	Mechanical Design	10	MECH 3004	Dynamics of Mechanical Systems	10
Credit Points	40		Credit Points	40	
Autumn session			MECH 3005	Mechanical Design	10

MECH 3001	Advanced Dynamics	10	Year 4
ENGR 3014	Engineering Science Project 2	10	Autumn session
ENGR 2035	Modern Digital Design and Development	10	ELEC 1003 Electrical Fundamentals 10
	Credit Points	40	MECH 3001 Advanced Dynamics 10
	Total Credit Points	240	Business Major Subject 3 10

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
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Year 1

Autumn session

ENGR 1011	Engineering Physics	10
MATH 1016	Mathematics for Engineers 1	10
Business Core Subject 1		10
Business Core Subject 2		10
	Credit Points	40

Spring session

PROC 1008	Introduction to Materials Engineering	10
ENGR 1018	Fundamentals of Mechanics	10
MATH 1019	Mathematics for Engineers 2	10
Business Core Subject 3		10
	Credit Points	40

Year 2

Autumn session

MECH 2003	Mechanics of Materials	10
ENGR 1024	Introduction to Engineering Practice	10
MECH 3008	Thermodynamics and Heat Transfer	10
Business Core Subject 4		10
	Credit Points	40

Spring session

ENGR 2001	Automated Manufacturing	10
MECH 3002	Advanced Mechanics of Materials	10
Business Professional Subject 1		10
Business Professional Subject 2		10
	Credit Points	40

Year 3

Autumn session

MECH 2001	Kinematics and Kinetics of Machines	10
ELEC 1006	Engineering Computing	10
CIVL 2003	Fluid Mechanics	10
ENGR 2035	Modern Digital Design and Development	10
	Credit Points	40

Spring session

MECH 3007	Thermal and Fluid Engineering	10
MECH 3004	Dynamics of Mechanical Systems	10
Business Major Subject 1		10
Business Major Subject 2		10
	Credit Points	40

ELEC 1003	Electrical Fundamentals	10
MECH 3001	Advanced Dynamics	10
Business Major Subject 3		10
Business Major Subject 4		10
	Credit Points	40

MECH 3006	Mechatronic Design	10
MECH 4002	Computer Aided Engineering	10
Business Major Subject 5		10
Business Major Subject 6		10
	Credit Points	40

ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40

MECH 3005	Mechanical Design	10
PROC 2003	Materials Selection and Design	10
Business Major Subject 7		10
Business Major Subject 8		10
	Credit Points	40

ENGR 4041	Final Year Project 1 (UG Engineering)	20
Business Professional Subject 3		10
Business Professional Subject 4		10
	Credit Points	40
	Total Credit Points	440

ENGR 4042	Final Year Project 2 (UG Engineering)	20
MECH 4004	Robotics	10
MECH 4001	Computational Fluid Dynamics	10
	Credit Points	40
	Total Credit Points	440

Mid-year intake

Course	Title	Credit Points
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Year 1		
Spring session		
MATH 1016	Mathematics for Engineers 1	10
ENGR 1018	Fundamentals of Mechanics	10
Business Core Subject 1		10
Business Core Subject 2		10
	Credit Points	40
Autumn session		
MATH 1019	Mathematics for Engineers 2	10
ENGR 1011	Engineering Physics	10
ELEC 1006	Engineering Computing	10
ELEC 1003	Electrical Fundamentals	10
	Credit Points	40

Year 2		
Spring session		
ENGR 2001	Automated Manufacturing	10
PROC 1008	Introduction to Materials Engineering	10
Business Professional Subject 3		10

Business Professional Subject 4	10	
Credit Points	40	
Autumn session		
MECH 2003	Mechanics of Materials	10
ENGR 1024	Introduction to Engineering Practice	10
MECH 3008	Thermodynamics and Heat Transfer	10
MECH 2001	Kinematics and Kinetics of Machines	10
Credit Points	40	
Year 3		
Spring session		
MECH 3004	Dynamics of Mechanical Systems	10
MECH 3002	Advanced Mechanics of Materials	10
Business Professional Subject 1		10
Business Professional Subject 2		10
Credit Points	40	
Autumn session		
CIVL 2003	Fluid Mechanics	10
ENGR 2035	Modern Digital Design and Development	10
Business Major Subject 1		10
Business Major Subject 2		10
Credit Points	40	
Year 4		
Spring session		
MECH 3007	Thermal and Fluid Engineering	10
MECH 3006	Mechatronic Design	10
Business Major Subject 3		10
Business Major Subject 4		10
Credit Points	40	
Autumn session		
PROC 2003	Materials Selection and Design	10
MECH 3005	Mechanical Design	10
MECH 3001	Advanced Dynamics	10
Business Major Subject 5		10
Credit Points	40	
Industrial Experience		
ENGR 3017	Industrial Experience (Engineering)	0
Credit Points	40	
Year 5		
Spring session		
MECH 4002	Computer Aided Engineering	10
Business Professional Subject 6		10
Business Professional Subject 7		10
Business Professional Subject 8		10
Credit Points	40	
Autumn session		
MECH 4004	Robotics	10
MECH 4001	Computational Fluid Dynamics	10
ENGR 4041	Final Year Project 1 (UG Engineering)	20
Credit Points	40	
Year 6		
Spring session		
ENGR 4042	Final Year Project 2 (UG Engineering)	20
Business Professional Subject 3		10
Business Professional Subject 4		10
Credit Points	40	
Total Credit Points	440	

Major Sequence 2022 - 2023

If you commenced in 2024 or later please refer to the Structure 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.

Bachelor of Engineering Advanced (Honours)

This Major will be offered at Engineering Innovation Hub which is part of Parramatta City campus.

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

Start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
MATH 1034	Mathematics for Engineers 1 (Advanced)	10
ENGR 1024	Introduction to Engineering Practice	10
ENGR 1047	Advanced Engineering Physics 1	10
ENGR 1045	Engineering Programming Fundamentals	10
Credit Points		40
Spring session		
ELEC 1009	Electrical Circuit Fundamentals	10
MATH 1035	Mathematics for Engineers 2 (Advanced)	10
ENGR 1018	Fundamentals of Mechanics	10
MANU 2001	Design and Manufacturing	10
Credit Points		40

Year 2

Course	Title	Credit Points
Autumn session		
ENGR 2027	Engineering Design	10
MECH 2003	Mechanics of Materials	10
MECH 2001	Kinematics and Kinetics of Machines	10
CIVL 2003	Fluid Mechanics	10
Credit Points		40

Spring session

Course	Title	Credit Points
MECH 2005		
MECH 2005	Mathematics for Mechanical and Mechatronic Engineers	10
MECH 3008	Thermodynamics and Heat Transfer	10
ENGR 2025	Design Graphics: Engineering Documentation	10
Credit Points		40

Select one elective

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.	40
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Course	Title	Credit Points
Year 3		
Autumn session		
MECH 3002	Advanced Mechanics of Materials	10
MECH 3005	Mechanical Design	10
Select one Alternate Subject		10

Select one elective		10	Subject	Title	Credit Points
Credit Points		40			
Spring session					
MECH 3007	Thermal and Fluid Engineering	10	ENGR 3022	Special Technical Project	10
MECH 3006	Mechatronic Design	10			
ENGR 3020	Numerical Methods in Engineering	10			
Select one Alternate Subject		10			
Industrial Experience					
ENGR 3017	Industrial Experience (Engineering)	0			
Credit Points		40			
Year 4					
Autumn session					
MECH 4004	Robotics	10			
ENGR 4037	Advanced Engineering Thesis 1: Preliminary Investigations	10			
Select one Alternate Subject		20			
Select one elective					
Credit Points		40			
Spring session					
MECH 4002	Computer Aided Engineering	10			
ENGR 4036	Advanced Engineering Thesis 2: Detailed Investigations	10			
Select one Alternate Subject		20			
Select one elective					
Credit Points		40			
Total Credit Points		320			
Alternate Subjects					
Subject	Title	Credit Points			
ENGR 3025	Designing for Circular Economy (Advanced)	10			
ENGR 2024	Design Graphics: Communication for Manufacture	10			
ENGR 2022	Design Practice: Sustainable Manufacturing	10			
MECH 4003	Mobile Robotics	10			
INFO 3003	Human-Computer Interaction	10			
HILTH 2003	Biomechanics	10			
ENGR 3003	Biomedical Electronics	10			
ENGR 3004	Biomedical Signals and Data Analysis	10			
MECH 4001	Computational Fluid Dynamics	10			
BIOS 1022	Introduction to Human Biology	10			
MECH 4003	Mobile Robotics	10			
Minors					
SM3072 Automation					
SM3091 Biomedical Engineering					
SM3099 Computer Aided Design (Mechanical)					
Optional Electives					
The following subject is an optional elective subject offered to students who are engaged in a School approved project. This subject can be taken during the third year of this program, however, permission is required to enrol in the subject.					
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					
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
MANU 2001	Design and Manufacturing				10
ELEC 1009	Electrical Circuit Fundamentals				10
Credit Points		40			
Autumn session					
MATH 1035	Mathematics for Engineers 2 (Advanced)				10
ENGR 1024	Introduction to Engineering Practice				10
ENGR 1047	Advanced Engineering Physics 1				10
ENGR 1045	Engineering Programming Fundamentals				10
Credit Points		40			
Year 2					
Spring session					
MECH 2005	Mathematics for Mechanical and Mechatronic Engineers				10
MECH 3008	Thermodynamics and Heat Transfer				10
ENGR 2025	Design Graphics: Engineering Documentation				10
Select one elective					10
Credit Points		40			
Autumn session					
ENGR 2027	Engineering Design				10
MECH 2003	Mechanics of Materials				10
MECH 2001	Kinematics and Kinetics of Machines				10
CIVL 2003	Fluid Mechanics				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					
MECH 3007	Thermal and Fluid Engineering				10
MECH 3006	Mechatronic Design				10
ENGR 3020	Numerical Methods in Engineering				10
One alternate subject					10
Credit Points		40			

Autumn session			Equivalent Subjects						
MECH 3002	Advanced Mechanics of Materials	10	The subjects listed below count towards completion of this program for students who passed these subjects in 2021 or earlier.						
MECH 3005	Mechanical Design	10	MECH 4005 Advanced Engineering Thesis 1: Preliminary Investigations, replaced by ENGR 4037 Advanced Engineering Thesis 1: Preliminary Investigations						
One alternate subject		10	MECH 4006 Advanced Engineering Thesis 2: Detailed Investigations, replaced by ENGR 4036 Advanced Engineering Thesis 2: Detailed Investigations						
Select one elective		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	Bachelor of Engineering Science						
MECH 4002	Computer Aided Engineering	10	This Major will be offered at Engineering Innovation Hub which is part of Parramatta City campus, Penrith and Sydney City campuses.						
One alternate subject		10	Qualification for this award requires the successful completion of 240 credit points which include the subjects listed in the recommended sequences below.						
Select one elective		10							
	Credit Points	40							
Autumn session									
ENGR 4036	Advanced Engineering Thesis 2: Detailed Investigations	10	Start-year intake						
MECH 4004	Robotics	10	<table border="1"> <thead> <tr> <th>Course</th><th>Title</th><th>Credit Points</th></tr> </thead> <tbody> <tr> <td></td><td></td><td></td></tr> </tbody> </table>	Course	Title	Credit Points			
Course	Title	Credit Points							
One alternate subject		10	Year 1						
Select one elective		10	Autumn session						
	Credit Points	40							
	Total Credit Points	320							
Alternate Subjects									
Subject	Title	Credit Points							
ENGR 3025	Designing for Circular Economy (Advanced)	10	ELEC 1006 Engineering Computing 10						
ENGR 2024	Design Graphics: Communication for Manufacture	10	ENGR 1011 Engineering Physics 10						
ENGR 2022	Design Practice: Sustainable Manufacturing	10	ENGR 1024 Introduction to Engineering Practice 10						
MECH 4003	Mobile Robotics	10	Select one of the following: 10						
INFO 3003	Human-Computer Interaction	10	MATH 1021 Mathematics for Engineers Preliminary						
HILTH 2003	Biomechanics	10	MATH 1016 Mathematics for Engineers 1						
ENGR 3003	Biomedical Electronics	10	Note: All students are required to enrol in MATH 1021 Mathematics for Engineers Preliminary first and undertake a readiness test at the beginning of their study.						
ENGR 3004	Biomedical Signals and Data Analysis	10	This test will be conducted at the beginning of the first semester of enrolment and the result will 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.						
MECH 4001	Computational Fluid Dynamics	10	The students who finish MATH 1021 Mathematics for Engineers Preliminary will then use this unit as an elective.						
BIOS 1022	Introduction to Human Biology	10							
MECH 4003	Mobile Robotics	10	Credit Points 40						
Minors									
SM3072 Automation			Spring session						
SM3091 Biomedical Engineering			ENGR 1018 Fundamentals of Mechanics 10						
SM3099 Computer Aided Design (Mechanical)			PROC 1008 Introduction to Materials Engineering 10						
Optional Electives			Select one of the following: 10						
The following subject is an optional elective subject offered to students who are engaged in a School approved project. This subject can be taken during the third year of this program, however, permission is required to enrol in the subject.			MATH 1016 Mathematics for Engineers 1						
			MATH 1019 Mathematics for Engineers 2						
			Select one elective 10						
			Note: Students who remained in MATH 1021 Mathematics for Engineers Preliminary during the first semester will be required to complete MATH 1016 Mathematics for Engineers 1 during second semester.						
			These students must then complete MATH 1019 Mathematics for Engineers 2 during the Summer session.						
Subject	Title	Credit Points	Credit Points 40						
ENGR 3022	Special Technical Project	10	Year 2						
			Autumn session						
			MECH 2001 Kinematics and Kinetics of Machines 10						
			MECH 2003 Mechanics of Materials 10						
			CIVL 2003 Fluid Mechanics 10						

ENGR 3029	Specialisation Workshop 1	10	Year 2	
	Credit Points	40	Spring session	
Spring session			ENGR 2001	Automated Manufacturing
MECH 3004	Dynamics of Mechanical Systems	10	MECH 3008	Thermodynamics and Heat Transfer
ENGR 2001	Automated Manufacturing	10	ENGR 3029	Specialisation Workshop 1
MECH 3008	Thermodynamics and Heat Transfer	10	Select one elective	10
ENGR 3030	Specialisation Workshop 2	10	• Elective must be Level 2 or higher	
	Credit Points	40		
Year 3				Credit Points
				40
Autumn session			Autumn session	
MECH 3005	Mechanical Design	10	MECH 2001	Kinematics and Kinetics of Machines
MECH 3001	Advanced Dynamics	10	MECH 2003	Mechanics of Materials
ENGR 3013	Engineering Science Project 1	10	CIVL 2003	Fluid Mechanics
ENGR 2024	Design Graphics: Communication for Manufacture	10	ENGR 3030	Specialisation Workshop 2
	Credit Points	40	Industrial Experience	
Spring session			ENGR 2033	Industrial Experience (Engineering Technologist)
MECH 3007	Thermal and Fluid Engineering	10		Credit Points
ENGR 3020	Numerical Methods in Engineering	10		40
ENGR 3014	Engineering Science Project 2	10	Year 3	
Select one elective		10	Spring session	
Industrial Experience			MECH 3007	Thermal and Fluid Engineering
ENGR 2033	Industrial Experience (Engineering Technologist)	0	ENGR 3020	Numerical Methods in Engineering
Note: Elective subjects must be level 2 or higher			ENGR 3014	Engineering Science Project 2
	Credit Points	40	MECH 3004	Dynamics of Mechanical Systems
	Total Credit Points	240		Credit Points
Equivalent Subjects				40
The subjects listed below count towards completion of this program for students who passed these subjects in Autumn 2022 or earlier.				Total Credit Points
ENGR 1008 - Engineering Materials, replaced by PROC 1008 - Introduction to Materials Engineering				240

Mid-year intake

Course	Title	Credit Points
Year 1		
Spring session		
Select one of the following:		
MATH 1021	Mathematics for Engineers Preliminary	10
MATH 1016	Mathematics for Engineers 1	10
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10
ENGR 1024	Introduction to Engineering Practice	10
	Credit Points	40
Autumn session		
Select one of the following:		10
MATH 1016	Mathematics for Engineers 1	10
MATH 1019	Mathematics for Engineers 2	10
ELEC 1006	Engineering Computing	10
ENGR 1011	Engineering Physics	10
Select one elective		10
• Elective must be Level 1 or higher		
	Credit Points	40

Equivalent Subjects

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

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

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

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

Start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
ENGR 1011 Engineering Physics		
Business Core Subject 1		10
Business Core Subject 2		10
MATH 1016 Mathematics for Engineers 1		10
	Credit Points	40

Spring session			Spring session		
PROC 1008	Introduction to Materials Engineering	10	MECH 4002	Computer Aided Engineering	10
Business Core Subject 3		10	ENGR 4026	Final Year Project 2 (UG Engineering)	10
Business Core Subject 4		10	MECH 3006	Mechatronic Design	10
MATH 1019	Mathematics for Engineers 2	10	Business Professional Subject 4		10
Credit Points		40	Credit Points		40
Year 2			Total Credit Points		400
Autumn session			Equivalent Subjects		
ELEC 1006	Engineering Computing	10	The subjects listed below count towards completion of this program for students who passed these subjects in Autumn 2022 or earlier.		
Business Professional Subject 1		10	ENGR 1008 - Engineering Materials, replaced by PROC 1008 - Introduction to Materials Engineering		
Business Professional Subject 2		10			
Business Major Subject 1		10			
Credit Points		40			
Spring session			Mid-year intake		
ELEC 1003	Electrical Fundamentals	10	Course		Credit Points
ENGR 1018	Fundamentals of Mechanics	10	Title		
Business Major Subject 2		10	Year 1		
Business Major Subject 3		10	Spring session		
Credit Points		40	PROC 1008	Introduction to Materials Engineering	10
Year 3			MATH 1016	Mathematics for Engineers 1	10
Autumn session			Business Core Subject 1		10
MECH 2001	Kinematics and Kinetics of Machines	10	Business Core Subject 2		10
MECH 2003	Mechanics of Materials	10	Credit Points		40
CIVL 2003	Fluid Mechanics	10	Autumn session		
ENGR 2024	Design Graphics: Communication for Manufacture	10	MATH 1019	Mathematics for Engineers 2	10
Credit Points		40	ENGR 1011	Engineering Physics	10
Spring session			Business Core Subject 3		10
MECH 3004	Dynamics of Mechanical Systems	10	Business Core Subject 4		10
ENGR 2001	Automated Manufacturing	10	Credit Points		40
MECH 3008	Thermodynamics and Heat Transfer	10	Year 2		
MECH 3002	Advanced Mechanics of Materials	10	Spring session		
Credit Points		40	ELEC 1003	Electrical Fundamentals	10
Year 4			ENGR 1018	Fundamentals of Mechanics	10
Autumn session			Business Major Subject 1		10
MECH 3005	Mechanical Design	10	Business Major Subject 2		10
MECH 3001	Advanced Dynamics	10	Credit Points		40
Business Major Subject 4		10	Autumn session		
Business Major Subject 5		10	ELEC 1006	Engineering Computing	10
Credit Points		40	MECH 2003	Mechanics of Materials	10
Spring session			Business Professional Subject 1		10
MECH 3007	Thermal and Fluid Engineering	10	Business Major Subject 3		10
ENGR 3020	Numerical Methods in Engineering	10	Credit Points		40
Business Major Subject 6		10	Year 3		
Business Major Subject 7		10	Spring session		
Industrial Experience			ENGR 2001	Automated Manufacturing	10
ENGR 3017	Industrial Experience (Engineering)	0	MECH 3008	Thermodynamics and Heat Transfer	10
Credit Points		40	MECH 3002	Advanced Mechanics of Materials	10
Year 5			Business Major Subject 4		10
Autumn session			Credit Points		40
MECH 4004	Robotics	10	Autumn session		
ENGR 4025	Final Year Project 1 (UG Engineering)	10	MECH 2001	Kinematics and Kinetics of Machines	10
Business Professional Subject 3		10	CIVL 2003	Fluid Mechanics	10
Business Major Subject 8		10	ENGR 2024	Design Graphics: Communication for Manufacture	10
Credit Points		40	Business Professional Subject 2		10
			Credit Points		40

Year 4			
Spring session			
MECH 3007	Thermal and Fluid Engineering	10	MATH 1016 Mathematics for Engineers 1
ENGR 3020	Numerical Methods in Engineering	10	MATH 1019 Mathematics for Engineers 2
MECH 3004	Dynamics of Mechanical Systems	10	ENGR 1018 Fundamentals of Mechanics 10
Business Major Subject 5		10	PROC 1008 Introduction to Materials Engineering 10
Credit Points		40	Select one elective 10
			• Elective must be Level 1 or higher
Autumn session		Credit Points	
MECH 3005	Mechanical Design	10	
MECH 3001	Advanced Dynamics	10	
Business Major Subject 6		10	
Business Major Subject 7		10	
Industrial Experience			
ENGR 3017	Industrial Experience (Engineering)	0	
Credit Points		40	
Year 5			
Spring session			
MECH 4002	Computer Aided Engineering	10	MECH 3004 Dynamics of Mechanical Systems 10
ENGR 4025	Final Year Project 1 (UG Engineering)	10	ENGR 2001 Automated Manufacturing 10
MECH 3006	Mechatronic Design	10	MECH 3008 Thermodynamics and Heat Transfer 10
Business Professional Subject 3		10	MECH 3002 Advanced Mechanics of Materials 10
Credit Points		40	
Autumn session		Credit Points	
ENGR 4026	Final Year Project 2 (UG Engineering)	10	
MECH 4004	Robotics	10	MECH 3005 Mechanical Design 10
Business Professional Subject 4		10	MECH 3001 Advanced Dynamics 10
Business Major Subject 8		10	One alternate subject 10
Credit Points		40	Select one elective 10
			• Elective must be Level 2 or higher
Total Credit Points		400	

Equivalent Subjects

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

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

Bachelor of Engineering (Honours)

This Major will be offered at Engineering Innovation Hub which is part of Parramatta City campus, Penrith and Sydney City campuses.

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			
Select one of the following:		10	
MATH 1021	Mathematics for Engineers Preliminary		
MATH 1016	Mathematics for Engineers 1		
ELEC 1006	Engineering Computing	10	
ENGR 1011	Engineering Physics	10	
ENGR 1024	Introduction to Engineering Practice	10	
Credit Points		40	
Spring session			
Select one of the following:		10	
Credit Points		40	
Total Credit Points			320

Equivalent Subjects

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

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

Mid-year intake

Course	Title	Credit Points
Year 1		
Spring session		
Select one of the following:		10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10
ENGR 1024	Introduction to Engineering Practice	10
	Credit Points	40
Autumn session		
Select one of the following:		10
MATH 1016	Mathematics for Engineers 1	
MATH 1019	Mathematics for Engineers 2	
ELEC 1006	Engineering Computing	10
ENGR 1011	Engineering Physics	10
Select one elective		10
• Elective must be Level 1 or higher		
	Credit Points	40

Course	Title	Credit Points
Year 2		
Spring session		
ENGR 2001 Automated Manufacturing 10		
MECH 3008	Thermodynamics and Heat Transfer	10
One alternate subject		10
Select one elective		10
• Elective must be Level 2 or higher		
	Credit Points	40
Autumn session		
MECH 2001	Kinematics and Kinetics of Machines	10
MECH 2003	Mechanics of Materials	10
CIVL 2003	Fluid Mechanics	10
ENGR 2025	Design Graphics: Engineering Documentation	10
	Credit Points	40

Course	Title	Credit Points
Year 3		
Spring session		
MECH 3007 Thermal and Fluid Engineering 10		
MECH 3002	Advanced Mechanics of Materials	10
ENGR 3020	Numerical Methods in Engineering	10
MECH 3004	Dynamics of Mechanical Systems	10
	Credit Points	40
Autumn session		
MECH 3005	Mechanical Design	10
MECH 3001	Advanced Dynamics	10
One alternate subject		10
Select one elective		10
• Elective must be Level 2 or higher		

Industrial Experience

ENGR 3017	Industrial Experience (Engineering)	0
Credit Points		
Year 4		
Spring session		
MECH 4002	Computer Aided Engineering	10
ENGR 4026	Final Year Project 2 (UG Engineering)	10
MECH 3006	Mechatronic Design	10
One alternate subject		10
	Credit Points	40
Autumn session		
MECH 4004	Robotics	10
ENGR 4025	Final Year Project 1 (UG Engineering)	10
One alternate subject		10
Select one elective		10
• Elective must be Level 2 or higher		
	Credit Points	40
Total Credit Points		320

Equivalent Subjects

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

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

Related Programs

Bachelor of Engineering (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/)