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# MECHANICAL ENGINEERING, TESTAMUR MAJOR

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. This major includes a mandatory 12 weeks of industrial placement as a completion requirement.

#### Location

Campus	Mode	Advice	Engineering (Honour	s) (3740)
Parramatta Campus - Macquarie Street	Internal	Major Advice (edbe@westernsydney.ed	u. <b>Yee</b> n)r 3	Credit P
Parramatta Campus -	Internal	Major Advice	Autumn session	
Victoria Road		(edbe@westernsydney.ed	<sup>U</sup> MECH 3002	Advance
Penrith Campus	Internal	Major Advice	MECH 3005	Mechan
		(edbe@westernsydney.ed	<sup>U</sup> Select one Alternate	Subject
Sydney City Campus	Internal	Major Advice (p.lendrum@city.westerns	Select one elective	
		(p.iciididiii@city.westeriis	sydifey.cdd. <del>dd)</del>	Credit P

## **Recommended Sequence**

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

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

# **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		
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		
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
of completion of 160	maintain a minimum GPA of 5.0 at the end Credit Points, and again at the completion will be automatically transferred to the B. s) (3740) program.	
	Credit Points	40

Advanced Mechanics of Materials

Mechanical Design

Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience  ENGR 3017 Industrial Experience (Engineering)  Credit Points 4  Year 4  Autumn session  MECH 4004 Robotics 1  ENGR 4037 Advanced Engineering Thesis 1: 1  Preliminary Investigations  Select one Alternate Subject 2  Select one elective  Credit Points 4  Spring session  MECH 4002 Computer Aided Engineering Thesis 2: Detailed Investigations  Select one Alternate Subject 2  ENGR 4036 Advanced Engineering Thesis 2: Detailed Investigations  Select one elective 2  Select one Alternate Subject 2  Select one Alternate Subject 3  ENGR 4036 Advanced Engineering Thesis 2: Detailed 1  Investigations  Select one elective 2		Total Credit Points	320
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience  ENGR 3017 Industrial Experience (Engineering)  Credit Points 4  Autumn session  MECH 4004 Robotics 1  ENGR 4037 Advanced Engineering Thesis 1: 1  Preliminary Investigations  Select one Alternate Subject 2  Select one elective  Credit Points 4  Spring session  MECH 4002 Computer Aided Engineering Thesis 2: Detailed Investigations  Select one Alternate Subject 2  ENGR 4036 Advanced Engineering Thesis 2: Detailed Investigations		Credit Points	40
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience  ENGR 3017 Industrial Experience (Engineering)  Credit Points 4  Autumn session  MECH 4004 Robotics 1  ENGR 4037 Advanced Engineering Thesis 1: 1  Preliminary Investigations  Select one Alternate Subject 2  Select one elective  Credit Points 4  Spring session  MECH 4002 Computer Aided Engineering Thesis 2: Detailed Investigations	Select one elective		
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience  ENGR 3017 Industrial Experience (Engineering)  Credit Points 4  Autumn session  MECH 4004 Robotics 1  ENGR 4037 Advanced Engineering Thesis 1: 1  Preliminary Investigations  Select one Alternate Subject 2  Select one elective  Credit Points 4  Spring session  MECH 4002 Computer Aided Engineering Thesis 2: Detailed 1  ENGR 4036 Advanced Engineering Thesis 2: Detailed 1	Select one Alternate	e Subject	20
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience  ENGR 3017 Industrial Experience (Engineering)  Credit Points 4  Autumn session  MECH 4004 Robotics 1  ENGR 4037 Advanced Engineering Thesis 1: 1  Preliminary Investigations  Select one Alternate Subject 2  Select one elective  Credit Points 4  Spring session	ENGR 4036	3	10
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience  ENGR 3017 Industrial Experience (Engineering)  Credit Points 4  Autumn session  MECH 4004 Robotics 1  ENGR 4037 Advanced Engineering Thesis 1: 1  Preliminary Investigations  Select one Alternate Subject 2  Select one elective  Credit Points 4	MECH 4002	Computer Aided Engineering	10
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience  ENGR 3017 Industrial Experience (Engineering)  Credit Points 4  Year 4  Autumn session  MECH 4004 Robotics 1  ENGR 4037 Advanced Engineering Thesis 1: 1  Preliminary Investigations  Select one Alternate Subject 2  Select one elective	Spring session		
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience  ENGR 3017 Industrial Experience (Engineering)  Credit Points 4  Year 4  Autumn session  MECH 4004 Robotics 1  ENGR 4037 Advanced Engineering Thesis 1: 1  Preliminary Investigations  Select one Alternate Subject 2		Credit Points	40
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience  ENGR 3017 Industrial Experience (Engineering)  Credit Points 4  Autumn session  MECH 4004 Robotics 1  ENGR 4037 Advanced Engineering Thesis 1: 1  Preliminary Investigations		,	
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience  ENGR 3017 Industrial Experience (Engineering)  Credit Points 4  Year 4  Autumn session  MECH 4004 Robotics 1  ENGR 4037 Advanced Engineering Thesis 1: 1	Select one Alternate	•	20
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience  ENGR 3017 Industrial Experience (Engineering)  Credit Points 4  Year 4  Autumn session	ENGR 4037	3 3	10
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience  ENGR 3017 Industrial Experience (Engineering)  Credit Points 4  Year 4	MECH 4004	Robotics	10
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience  ENGR 3017 Industrial Experience (Engineering)  Credit Points 4	Autumn session		
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience  ENGR 3017 Industrial Experience (Engineering)	Year 4		
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1  Industrial Experience		Credit Points	40
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1  Select one Alternate Subject 1	ENGR 3017	Industrial Experience (Engineering)	0
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1  ENGR 3020 Numerical Methods in Engineering 1	Industrial Experience	e	
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1  MECH 3006 Mechatronic Design 1	Select one Alternate	e Subject	10
Credit Points 4  Spring session  MECH 3007 Thermal and Fluid Engineering 1	ENGR 3020	Numerical Methods in Engineering	10
Credit Points 4 Spring session	MECH 3006	Mechatronic Design	10
Credit Points 4	MECH 3007	Thermal and Fluid Engineering	10
(dnov odu au)	Spring session		
Select one elective 1	<del>(dney.edu.au)</del>	Credit Points	40
	Select one elective		10

**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
HLTH 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.

Subject	Title	Credit Points
ENGR 3022	Special Technical Project	10

#### **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
of completion of 160	maintain a minimum GPA of 5.0 at the end 0 Credit Points, and again at the completion will be automatically transferred to the B. rs) (3740) program.	
	Credit Points	40

Year 3

Spring session

	Total Credit Points	320
	Credit Points	40
Select one elective		10
One alternate subjec	et	10
MECH 4004	Robotics	10
Autumn session ENGR 4036	Advanced Engineering Thesis 2: Detailed Investigations	10
	Credit Points	40
Select one elective		10
One alternate subject	t	10
MECH 4002	Computer Aided Engineering	10
Spring session ENGR 4037	Advanced Engineering Thesis 1: Preliminary Investigations	10
Year 4		
	Credit Points	40
ENGR 3017	Industrial Experience (Engineering)	0
Industrial Experience		
Select one elective		10
One alternate subjec	et	10
MECH 3005	Mechanical Design	10
Autumn session MECH 3002	Advanced Mechanics of Materials	10
	Credit Points	40
One alternate subject	et	10
ENGR 3020	Numerical Methods in Engineering	10
MECH 3006	Mechatronic Design	10
	Thermal and Fluid Engineering	

Designing for Circular Economy (Advanced)

Design Graphics: Communication for

Credit

**Points** 

10

10

Title

Manufacture

Subject

**ENGR 3025** 

**ENGR 2024** 

ENGR 2022	Design Practice: Sustainable Manufacturing	10
MECH 4003	Mobile Robotics	10
INFO 3003	Human-Computer Interaction	10
HLTH 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.

Subject	Title	Credit Points
ENGR 3022	Special Technical Project	10

#### **Equivalent Subjects**

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

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

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

## **Bachelor of Engineering Science**

This Major will be offered at Parramatta City, 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
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 fol	lowing:	10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	

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.

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.

The students who finish MATH 1021 Mathematics for Engineers Preliminary will then use this unit as an elective.

	Credit Points	40
Spring session		
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10
Select one of the following:		10
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.

	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 3029	Specialisation Workshop 1	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
ENGR 3030	Specialisation Workshop 2	10
	Credit Points	40
Year 3		
Autumn session		
MECH 3005	Mechanical Design	10
MECH 3001	Advanced Dynamics	10
ENGR 3013	Engineering Science Project 1	10
ENGR 2024	Design Graphics: Communication for Manufacture	10
	Credit Points	40
Spring session		
MECH 3007	Thermal and Fluid Engineering	10
ENGR 3020	Numerical Methods in Engineering	10
ENGR 3014	Engineering Science Project 2	10
Select one elective	e	10
Industrial Experies	nce	
ENGR 2033	Industrial Experience (Engineering Technologist)	C
Note: Elective sub	jects 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

## Mid-year intake

Course	Title	Credit Points
Year 1		
Spring session		
Select one of the fo	•	10
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10
ENGR 1024	Introduction to Engineering Practice	10
	Credit Points	40
Autumn session		
Select one of the fo	llowing:	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	e Level 1 or higher	
	Credit Points	40
Year 2		
Spring session		
ENGR 2001	Automated Manufacturing	10
MECH 3008	Thermodynamics and Heat Transfer	10
ENGR 3029	Specialisation Workshop 1	10
Select one elective		10
Elective must be	e 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 3030	Specialisation Workshop 2	10
Industrial Experience	e	
ENGR 2033	Industrial Experience (Engineering Technologist)	0
	Credit Points	40
Year 3		
Spring session		
MECH 3007	Thermal and Fluid Engineering	10
ENGR 3020	Numerical Methods in Engineering	10
ENGR 3014	Engineering Science Project 2	10
MECH 3004	Dynamics of Mechanical Systems	10
WILOTT 3004	Credit Points	40
Autumn accien	Credit Fullits	40
Autumn session	Machanical Danian	10
MECH 3005	Mechanical Design	10
MECH 3001	Advanced Dynamics	10
ENGR 3013	Engineering Science Project 1	10

ENGR 2024	Design Graphics: Communication for Manufacture	10
	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

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

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

## Start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
ENGR 1011	Engineering Physics	10
Business Core Subje	ct 1	10
Business Core Subje	ct 2	10
MATH 1016	Mathematics for Engineers 1	10
	Credit Points	40
Spring session		
PROC 1008	Introduction to Materials Engineering	10
Business Core Subje	ct 3	10
Business Core Subje	ct 4	10
MATH 1019	Mathematics for Engineers 2	10
	Credit Points	40
Year 2		
Autumn session		
ELEC 1006	Engineering Computing	10
Business Professional Subject 1		
Business Professional Subject 2		
Business Major Subj	ect 1	10
	Credit Points	40
Spring session		
ELEC 1003	Electrical Fundamentals	10
ENGR 1018	Fundamentals of Mechanics	10
Business Major Subj	ect 2	10
Business Major Subj	ect 3	10
	Credit Points	40
Year 3		
Autumn session		
MECH 2001	Kinematics and Kinetics of Machines	10
MECH 2003	Mechanics of Materials	10
CIVL 2003	Fluid Mechanics	10
ENGR 2024	Design Graphics: Communication for Manufacture	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 4		
Autumn session		
MECH 3005	Mechanical Design	10
MECH 3001	Advanced Dynamics	10
Business Major Su	ıbject 4	10
Business Major Su	ıbject 5	10
	Credit Points	40
Spring session		
MECH 3007	Thermal and Fluid Engineering	10
ENGR 3020	Numerical Methods in Engineering	10
Business Major Su	ıbject 6	10
Business Major Su	ıbject 7	10
Industrial Experien	ice	
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40
Year 5		
Autumn session		
MECH 4004	Robotics	10
ENGR 4025	Final Year Project 1 (UG Engineering)	10
Business Profession	onal Subject 3	10
Business Major Su	ıbject 8	10
	Credit Points	40
Spring session		
MECH 4002	Computer Aided Engineering	10
ENGR 4026	Final Year Project 2 (UG Engineering)	10
MECH 3006	Mechatronic Design	10
Business Profession	onal Subject 4	10
	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

## Mid-year intake

Course	Title	Credit Points
Year 1		. 0
Spring session		
PROC 1008	Introduction to Materials Engineering	10
MATH 1016	Mathematics for Engineers 1	10
Business Core Sub	oject 1	10
Business Core Sub	oject 2	10
	Credit Points	40
Autumn session		
MATH 1019	Mathematics for Engineers 2	10
ENGR 1011	Engineering Physics	10
Business Core Subject 3		10
Business Core Subject 4		10
	Credit Points	40

Year 2		
Spring session		
ELEC 1003	Electrical Fundamentals	10
ENGR 1018	Fundamentals of Mechanics	10
Business Major S	ubject 1	10
Business Major S	ubject 2	10
	Credit Points	40
Autumn session		
ELEC 1006	Engineering Computing	10
MECH 2003	Mechanics of Materials	10
Business Profess	•	10
Business Major S	<u> </u>	10
	Credit Points	40
Year 3		
Spring session		
ENGR 2001	Automated Manufacturing	10
MECH 3008	Thermodynamics and Heat Transfer	10
MECH 3002	Advanced Mechanics of Materials	10
Business Major S	ubject 4	10
	Credit Points	40
Autumn session		
MECH 2001	Kinematics and Kinetics of Machines	10
CIVL 2003	Fluid Mechanics	10
ENGR 2024	Design Graphics: Communication for Manufacture	10
Business Profess	ional Subject 2	10
	Credit Points	40
Year 4		
Spring session		
MECH 3007	Thermal and Fluid Engineering	10
ENGR 3020	Numerical Methods in Engineering	10
MECH 3004	Dynamics of Mechanical Systems	10
Business Major S		10
	Credit Points	40
Autumn session		
MECH 3005	Mechanical Design	10
MECH 3001	Advanced Dynamics	10
Business Major S	-	10
Business Major S	ubject 7	10
Industrial Experie	nce	
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40
Year 5		
Spring session		
MECH 4002	Computer Aided Engineering	10
	Final Year Project 1 (UG Engineering)	10
ENGR 4025		
MECH 3006	Mechatronic Design	10
	ional Subject 3	
MECH 3006 Business Profess	-	10
MECH 3006 Business Profess Autumn session	ional Subject 3  Credit Points	10 <b>40</b>
MECH 3006 Business Profess Autumn session ENGR 4026	ional Subject 3  Credit Points  Final Year Project 2 (UG Engineering)	10 <b>40</b> 10
MECH 3006 Business Profess  Autumn session ENGR 4026 MECH 4004	ional Subject 3  Credit Points  Final Year Project 2 (UG Engineering)  Robotics	10 40 10 10
MECH 3006 Business Profess Autumn session ENGR 4026	ional Subject 3  Credit Points  Final Year Project 2 (UG Engineering)  Robotics	10 10 40 10 10

Business Major Subject 8	
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

# **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.

## Start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
Select one of the f	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 f	following:	10
MATH 1016	Mathematics for Engineers 1	
MATH 1019	Mathematics for Engineers 2	
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10
Select one elective	e	10
Elective must	be Level 1 or higher	
	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 2025	Design Graphics: Engineering Documentation	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 2003	Mechanics of Materials	10
	Credit Points	40
Year 3		
Autumn session		
MECH 3005	Mechanical Design	10
MECH 3001	Advanced Dynamics	10
One alternate sub	,	10
Select one elective		10
33.300 0110 0100017	-	10

Elective must	be Level 2 or higher	
	Credit Points	40
Spring session		
MECH 3007	Thermal and Fluid Engineering	10
ENGR 3020	Numerical Methods in Engineering	10
MECH 3006	Mechatronic Design	10
One alternate subj	ect	10
Industrial Experier	nce	
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40
Year 4		
Autumn session		
MECH 4004	Robotics	10
ENGR 4025	Final Year Project 1 (UG Engineering)	10
One alternate subject		10
Select one elective	e	10
Elective must	be Level 2 or higher	
	Credit Points	40
Spring session		
MECH 4002	Computer Aided Engineering	10
ENGR 4026	Final Year Project 2 (UG Engineering)	10
One alternate subj	ect	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

## Mid-year intake

Course	Title	Credit Points
Year 1		
Spring session		
Select one of the fol	lowing:	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 fol	lowing:	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

Year 2		
Spring session		
ENGR 2001	Automoted Manufacturing	10
MECH 3008	Automated Manufacturing Thermodynamics and Heat Transfer	10
One alternate subj	•	10
Select one elective		
		10
• Elective must i	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	10
	Documentation	
	Credit Points	40
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 I	be Level 2 or higher	
Industrial Experien		
ENGR 3017	Industrial Experience (Engineering)	0
	Credit Points	40
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 subj		10
	Credit Points	40
Autumn session		
MECH 4004	Robotics	10
ENGR 4025	Final Year Project 1 (UG Engineering)	10
One alternate subj		10
Select one elective		10
Elective must l	be Level 2 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.

320

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

**Total Credit Points** 

# **Related Programs**

Bachelor of Engineering Advanced (Honours) (3771) (https://hbook.westernsydney.edu.au/archives/2021-2022/programs/bachelorengineering-advanced-honours/)

Bachelor of Engineering Science (3691) (https://hbook.westernsydney.edu.au/archives/2021-2022/programs/bachelorengineering-science/)