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

## Location

| Campus | Mode | Advice |
|---|---|---|
| Parramatta City Campus - Macquarie Street | Internal | Major Advice (edbe@westernsydney.edu.au) |
| 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.westernsydney.edu.au) |

\*  Curriculum delivered through an agreement with another party

## Recommended 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** | | |
| **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 |
| 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** | | |
| MECH 3002 | Advanced Mechanics of Materials | 10 |
| MECH 3005 | Mechanical Design | 10 |
| Select one Alternate Subject | | 10 |
| Select one elective | | 10 |
| | **Credit Points** | **40** |
| **Spring session** | | |
| MECH 3007 | Thermal and Fluid Engineering | 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 |
| 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 |
| 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** | | |
| MECH 3002 | Advanced Mechanics of Materials | 10 |
| MECH 3005 | Mechanical Design | 10 |
| One alternate subject | | 10 |
| 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 |
| MECH 4002 | Computer Aided Engineering | 10 |
| One alternate subject | | 10 |
| Select one elective | | 10 |
| | **Credit Points** | **40** |
| **Autumn session** | | |
| ENGR 4036 | Advanced Engineering Thesis 2: Detailed Investigations | 10 |
| MECH 4004 | Robotics | 10 |
| One alternate subject | | 10 |
| Select one elective | | 10 |
| | **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 |
| 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 following: | | 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 | | 10 |
| **Industrial Experience** | | |
| ENGR 2033 | Industrial Experience (Engineering Technologist) | 0 |

Note: Elective subjects 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 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** |
| **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 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** | | |
| 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 |
| | **Credit Points** | **40** |

| Course | Title | Credit Points |
|---|---|---|
| **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** |
| | **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 (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 | 10 |
| Business Core Subject 1 | | 10 |
| Business Core Subject 2 | | 10 |
| MATH 1016 | Mathematics for Engineers 1 | 10 |
| | **Credit Points** | **40** |
| **Spring session** | | |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Business Core Subject 3 | | 10 |
| Business Core Subject 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 | | 10 |
| Business Professional Subject 2 | | 10 |
| Business Major Subject 1 | | 10 |
| | **Credit Points** | **40** |
| **Spring session** | | |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| Business Major Subject 2 | | 10 |
| Business Major Subject 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 |

| Course | Title | Credit Points |
|---|---|---|
| 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 Subject 4 | | 10 |
| Business Major Subject 5 | | 10 |
| | **Credit Points** | **40** |
| **Spring session** | | |
| MECH 3007 | Thermal and Fluid Engineering | 10 |
| ENGR 3020 | Numerical Methods in Engineering | 10 |
| Business Major Subject 6 | | 10 |
| Business Major Subject 7 | | 10 |
| **Industrial Experience** | | |
| 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 Professional Subject 3 | | 10 |
| Business Major Subject 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 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

## Mid-year intake

| Course | Title | Credit Points |
|---|---|---|
| **Year 1** | | |
| **Spring session** | | |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| MATH 1016 | Mathematics for Engineers 1 | 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 |
| 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 Subject 1 | | 10 |
| Business Major Subject 2 | | 10 |
| | **Credit Points** | **40** |
| **Autumn session** | | |
| ELEC 1006 | Engineering Computing | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| Business Professional Subject 1 | | 10 |
| Business Major Subject 3 | | 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 Subject 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 Professional 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 Subject 5 | | 10 |
| | **Credit Points** | **40** |
| **Autumn session** | | |
| 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 |
| ENGR 4025 | Final Year Project 1 (UG Engineering) | 10 |
| MECH 3006 | Mechatronic Design | 10 |
| Business Professional Subject 3 | | 10 |
| | **Credit Points** | **40** |
| **Autumn session** | | |
| ENGR 4026 | Final Year Project 2 (UG Engineering) | 10 |
| MECH 4004 | Robotics | 10 |

| | | |
|---|---|---|
| Business Professional Subject 4 | | 10 |
| Business 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

# 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 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 |
| 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 | | 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 subject | | 10 |
| Select one elective | | 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 subject | | 10 |
| **Industrial Experience** | | |
| 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 | | 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 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

## 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 |

**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** |

**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** | **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 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

# Major Sequence 2024

This major sequence applies to students who commenced in 2024 or later. If you commenced prior to 2024 please refer to the Sequence 2022-23 tab for details.

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

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

# Bachelor of Engineering 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.

## 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 | | 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 |

## 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 1024 | Introduction to Engineering Practice | 10 |
| ENGR 1047 | Advanced Engineering Physics 1 | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| | **Credit Points** | **40** |

| **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 | | 10 |
| | **Credit Points** | **40** |
| **Autumn session** | | |
| ENGR 2025 | Design Graphics: Engineering Documentation | 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 |
| 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 |
| | **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 |
| | **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 |

## 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.**

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** | | |
| 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** |

| Course | Title | Credit Points |
|---|---|---|
| **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 |
| Select one elective or Minor subject | | 10 |
| Select one elective or Minor subject | | 10 |
| | **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 |
| 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 |
| **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 |
| Select one elective or Minor subject | | 10 |
| | **Credit Points** | **40** |
| **Autumn session** | | |
| MECH 4004 | Robotics | 10 |
| ENGR 4042 | Final Year Project 2 (UG Engineering) | 20 |
| Select one elective or Minor subject | | 10 |
| | **Credit Points** | **40** |
| | **Total Credit Points** | **320** |

# 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 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 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 |
| **Industrial Experience** | | |
| ENGR 2033 | Industrial Experience (Engineering Technologist) | 0 |
| | **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 2035 | Modern Digital Design and Development | 10 |
| | **Credit Points** | **40** |
| **Spring session** | | |
| MECH 3007 | Thermal and Fluid Engineering | 10 |
| ENGR 3014 | Engineering Science Project 2 | 10 |
| Select two electives (Level 2 or higher) | | 20 |
| | **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 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 |
| ENGR 3029 | Specialisation Workshop 1 | 10 |
| Select one elective (Level 2 or higher) | | 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 3030 | Specialisation Workshop 2 | 10 |
|---|---|---|
| **Industrial Experience** | | |
| ENGR 2033 | Industrial Experience (Engineering Technologist) | 0 |
| | **Credit Points** | **40** |
| **Year 3** | | |
| **Spring session** | | |
| MECH 3007 | Thermal and Fluid Engineering | 10 |
| MECH 4002 | Computer Aided Engineering | 10 |
| ENGR 3013 | Engineering Science Project 1 | 10 |
| MECH 3004 | Dynamics of Mechanical Systems | 10 |
| | **Credit Points** | **40** |
| **Autumn session** | | |
| MECH 3005 | Mechanical Design | 10 |
| MECH 3001 | Advanced Dynamics | 10 |
| ENGR 3014 | Engineering Science Project 2 | 10 |
| ENGR 2035 | Modern Digital Design and Development | 10 |
| | **Credit Points** | **40** |
| | **Total Credit Points** | **240** |

# 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** | | |
| 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** |
| **Year 4** | | |
| **Autumn session** | | |
| ELEC 1003 | Electrical Fundamentals | 10 |
| MECH 3001 | Advanced Dynamics | 10 |
| Business Major Subject 3 | | 10 |
| Business Major Subject 4 | | 10 |
| | **Credit Points** | **40** |
| **Spring session** | | |
| MECH 3006 | Mechatronic Design | 10 |
| MECH 4002 | Computer Aided Engineering | 10 |
| Business Major Subject 5 | | 10 |
| Business Major Subject 6 | | 10 |
| **Industrial Experience** | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| | **Credit Points** | **40** |
| **Year 5** | | |
| **Autumn session** | | |
| 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** |
| **Spring session** | | |
| ENGR 4041 | Final Year Project 1 (UG Engineering) | 20 |
| Business Professional Subject 3 | | 10 |
| Business Professional Subject 4 | | 10 |
| | **Credit Points** | **40** |
| **Year 6** | | |
| **Autumn session** | | |
| 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 |
|---|---|---|
| **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 |
| **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** |

# Related Programs

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

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

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

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