MATERIALS ENGINEERING, TESTAMUR MAJOR (T128)

Western Sydney University Major Code: T128

Previous Code: MT3049.1

Available to students in other Western Sydney University programs?

No

Since the dawning of mankind an understanding of how materials can be obtained and used has been critical to successful human endeavour. Materials engineers are concerned with the highly technological and dynamic process of understanding, developing, and applying materials (metals, polymers, ceramics, composites) to a range of engineering problems. Students will develop skills necessary to synthesise relevant information so that they can be effective decision makers in a materials context. These skills will serve them well in varied career opportunities associated with biomedical devices, nanotechnology, advanced manufacturing, opto-electronics, energy, aerospace, and sustainable construction. This major includes a mandatory 300 to 450 hour industrial placement as a completion requirement.

Location

| Campus | Mode | Advice | _ |
|---|----------|--|----------|
| Parramatta Campus - Victoria Road | Internal | Program Advice (edbe@westernsydney.ed | Y Iu, |
| Parramatta City Campus-Macquarie Street | Internal | Program Advice (edbe@westernsydney.ed | Iu N |
| Penrith Campus | Internal | Program Advice (edbe@westernsydney.ed | |

Recommended Sequence 2022-23

If you commenced in 2024 or later please refer to the Sequence 2024 tab for details.

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

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

Select the link for your program below to see details of the major

Bachelor of Engineering (Honours)

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

* All students undertaking the Bachelor of Engineering (Honours) are required to enrol in MATH 1021 Mathematics for Engineers Preliminary and undertake a readiness test at the beginning of their study.

The readiness test will be conducted at the beginning of the first semester of enrolment and the result will be used to determine whether a student will remain in MATH 1021 Mathematics for Engineers Preliminary or be transferred by the School to MATH 1016 Mathematics for Engineers 1.

Students remaining in MATH 1021 Mathematics for Engineers
Preliminary will be required to complete MATH 1016 Mathematics
for Engineers 1 during second semester and will be encouraged to

complete MATH 1019 Mathematics for Engineers 2 during the Summer session.

Start-year intake

ENGR 4025

| Course | Title | Credit Points |
|---|---------------------------------------|------------------|
| Year 1 | | |
| Autumn session | | |
| ENGR 1011 | Engineering Physics | 10 |
| PROC 1006 | Materials Engineering Fundamentals | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Select one of the fo | llowing: | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | |
| MATH 1016 | Mathematics for Engineers 1 | |
| | Credit Points | 40 |
| Spring session | | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Select one elective | | 10 |
| Select one of the fo | llowing: | 10 |
| MATH 1016 | Mathematics for Engineers 1 | |
| MATH 1019 | Mathematics for Engineers 2 | |
| | Credit Points | 40 |
| Year 2 | | |
| u Addumn session | | |
| MECH 2001 | Kinematics and Kinetics of Machines | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ENGR 2016 | Pavement Materials and Design | 10 |
| ENGR 2001 | Automated Manufacturing | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| MECH 3002 | Advanced Mechanics of Materials | 10 |
| | Credit Points | 40 |
| Year 3 | | |
| Autumn session | | |
| MECH 3005 | Mechanical Design | 10 |
| PROC 3008 | Materials Processing and Applications | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| Select one elective | | 10 |
| Elective must b | e Level 2 or higher | |
| | Credit Points | 40 |
| Curium acceion | Credit Points | 40 |
| Spring session | Advanced Materials Taxias | 10 |
| PROC 4001 CIVL 3020 | Advanced Materials Topics | 10 |
| | Sustainable Waste Engineering | 10 |
| MECH 3008 | Thermodynamics and Heat Transfer | 10 |
| Select one Alternat Industrial Experience | | 10 |
| | | 0 |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| Van A | Credit Points | 40 |
| Year 4 | | |
| Autumn session | Engineering Motoricle from Wests | 10 |
| PROC 4002 | Engineering Materials from Waste | 10 |

Final Year Project 1 (UG Engineering)

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

| Credit Points | 40 |
|---------------------|-----|
| Total Credit Points | 320 |

Alternate Subjects

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

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

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

Indigenous Australian Studies, Minor (https://

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

Sustainability Engineering, Minor (https://

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

Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/majors-minors/advanced-manufacturing-minor/)

Equivalent Subjects

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

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

Mid-year intake

| Mid-year intake | | |
|------------------------|--|------------------|
| Course | Title | Credit Points |
| Year 1 | | 1 Ollito |
| Spring session | | |
| Select one of the fo | llowing: | 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 |
| A | Credit Points | 40 |
| Autumn session | H | 10 |
| Select one of the fo | | 10 |
| MATH 1019 | Mathematics for Engineers 2 | |
| MATH 1016 | Mathematics for Engineers 1 | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| PROC 1006 | Materials Engineering Fundamentals | 10 |
| Select one elective | and the form of the second sec | 10 |
| Elective unit mu | st be Level 1 or higher | |
| Year 2 | Credit Points | 40 |
| | | |
| Spring session | Automotod Manufacturing | 10 |
| ENGR 2001 ENGR 2032 | Automated Manufacturing | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| Select one elective | Pavement Materials and Design | 10 |
| | st be Level 2 or higher | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| PROC 2003 | Materials Selection and Design | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| MECH 2001 | Kinematics and Kinetics of Machines | 10 |
| PROC 3008 | Materials Processing and Applications | 10 |
| | Credit Points | 40 |
| Year 3 | | |
| Spring session | | |
| PROC 4001 | Advanced Materials Topics | 10 |
| CIVL 3020 | Sustainable Waste Engineering | 10 |
| MECH 3008 | Thermodynamics and Heat Transfer | 10 |
| MECH 3002 | Advanced Mechanics of Materials | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| ELEC 1006 | Engineering Computing | 10 |
| MECH 3005 | Mechanical Design | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| One Alternate Subje | | 10 |
| Industrial Experience | | _ |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| | Credit Points | 40 |

Year 4 Spring session

| ENGR 4025 | Final Year Project 1 (UG Engineering) | 10 |
|-----------------------|---------------------------------------|----|
| One Alternate sub | ject | 10 |
| One Alternate subject | | 10 |
| Select one elective | | 10 |
| Flective unit n | nust he Level 2 or higher | |

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

· Elective unit must be Level 2 or higher

| Credit Points | 40 |
|---------------------|-----|
| Total Credit Points | 320 |

Alternate Subjects

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

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

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

Indigenous Australian Studies, Minor (https://

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

Sustainability Engineering, Minor (https://

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

Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/majors-minors/advanced-manufacturing-minor/)

Equivalent Subjects

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

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

Bachelor of Engineering Advanced (Honours)

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

Start-year intake

| Course | Title | Credit Points |
|---------------------|---|------------------|
| Year 1 | | |
| Autumn session | | |
| MATH 1034 | Mathematics for Engineers 1 (Advanced) | 10 |
| ENGR 1047 | Advanced Engineering Physics 1 | 10 |
| PROC 1006 | Materials Engineering Fundamentals | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| | Credit Points | 40 |
| Spring session | | |
| MATH 1035 | Mathematics for Engineers 2 (Advanced) | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Select one elective | | 10 |
| | Credit Points | 40 |
| Year 2 | | |
| Autumn session | | |
| MECH 2001 | Kinematics and Kinetics of Machines | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| ENGR 1045 | Engineering Programming Fundamentals | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| | Credit Points | 40 |
| Spring session | | |
| MECH 2005 | Mathematics for Mechanical and Mechatronic Engineers | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| ENGR 2016 | Pavement Materials and Design | 10 |
| ENGR 2001 | Automated Manufacturing | 10 |
| of completion of 16 | o 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 |

Credit Points Year 3 **Autumn session** PROC 3008 Materials Processing and Applications 10 **MECH 3005** Mechanical Design 10 **CIVL 2003** Fluid Mechanics 10 One Alternate Subject 10 **Credit Points** 40 Spring session PROC 4001 10 **Advanced Materials Topics**

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

4

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

| - | Credit Points | 40 |
|--|--|-----|
| Spring session | | |
| | Advanced Engineering Thesis 2: Detailed Investigations | 10 |
| Two Alternate subject | s | 10 |
| Select two electives | | 20 |
| Elective subjects in the subject in | must be Level 2 or higher | |
| | Credit Points | 40 |
| | Total Credit Points | 320 |

Alternate Subjects

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

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

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

Indigenous Australian Studies, Minor (https://

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

Sustainability Engineering, Minor (https://

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

Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/ majors-minors/advanced-manufacturing-minor/)

Equivalent Subjects

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

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

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

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

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

Mid-year intake

| Course | Title | Credit Points |
|---------------------|---|------------------|
| Year 1 | | |
| Spring session | | |
| MATH 1034 | Mathematics for Engineers 1 (Advanced) | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| MATH 1035 | Mathematics for Engineers 2 (Advanced) | 10 |
| ENGR 1047 | Advanced Engineering Physics 1 | 10 |
| PROC 1006 | Materials Engineering Fundamentals | 10 |
| Select one elective | | 10 |
| Elective unit mus | t be Level 1 or higher | |
| | Credit Points | 40 |
| Year 2 | | |
| Spring session | | |
| MECH 2005 | Mathematics for Mechanical and Mechatronic Engineers | 10 |
| ENGR 2001 | Automated Manufacturing | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| ENGR 2016 | Pavement Materials and Design | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| PROC 2003 | Materials Selection and Design | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| MECH 2001 | Kinematics and Kinetics of Machines | 10 |

| Elective unit must be Leve Credit P | oints | 40 |
|---|--|----|
| Elective unit must be Leve | | |
| Flective unit must be lieve | 0giioi | |
| | el 2 or higher | .0 |
| One Alternate subject | | 10 |
| Select one elective | gatchalo nom made | 10 |
| PROC 4002 Enginee | ations ring Materials from Waste | 10 |
| ENGR 4036 Advance | ed Engineering Thesis 2: Detailed | 10 |
| Autumn session | onits | 40 |
| Credit P | oints | 40 |
| Elective unit must be Leve | el 2 or higher | |
| Select one elective | | 10 |
| One Alternate subject | | 10 |
| One Alternate subject | , | 10 |
| | ed Engineering Thesis 1: ary Investigations | 10 |
| Spring session | | |
| Year 4 | | |
| Credit P | , | 40 |
| · | al Experience (Engineering) | C |
| Industrial Experience | | |
| One Alternate subject | | 10 |
| | echanics | 10 |
| | ical Design | 10 |
| | ring Computing | 10 |
| Credit P Autumn session | oints | 40 |
| | | |
| Elective unit must be Leve | al 2 or higher | 10 |
| MECH 3008 Thermoo | dynamics and Heat Transfer | 10 |
| | able Waste Engineering | 10 |
| | ed Materials Topics | 10 |
| Spring session | | |
| Year 3 | omits | 40 |
| Engineering (Honours) (3740) Credit P | | 40 |
| • | tomatically transferred to the B. | |
| | pints, and again at the completion | |
| Students who fail to maintain | a minimum GPA of 5.0 at the end | |

Materials Processing and Applications

10

PROC 3008

| - | | Points |
|-----------|--------------------------------------|--------|
| BIOS 1022 | Introduction to Human Biology | 10 |
| HLTH 2003 | Biomechanics | 10 |
| ENGR 3003 | Biomedical Electronics | 10 |
| ENGR 3004 | Biomedical Signals and Data Analysis | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 4035 | Smart and Liveable Cities | 10 |
| ENGR 4034 | Climate Smart Engineering | 10 |
| ELEC 3010 | Renewable Energy Systems Design | 10 |
| CIVL 2018 | Water Supply Systems Design | 10 |

Modern Digital Design and Development (not yet available)

Digital Manufacturing and IIoT (not yet available)

Alternate Subjects

Subject

| Design for Advan | ced Manufacturing (not yet available) | 10 |
|------------------|---|----|
| HUMN 1013 | Contextualising Indigenous Australia (Day Mode) | 10 |
| HUMN 1058 | Indigenous Landscapes | 10 |
| HUMN 2038 | Pigments of the Imagination | 10 |
| HUMN 2048 | Revaluing Indigenous Economics (Day Mode) | 10 |
| PERF 2011 | From Corroborees to Curtain Raisers (Day Mode) | 10 |
| VISU 2003 | From Ochre to Acrylics to New Technologies | 10 |
| CEDS 3001 | Bridging the Gap: Re-engaging Indigenous Learners | 10 |
| HUMN 3082 | The Making of the 'Aborigines' | 10 |
| WELF 3008 | Learning through Indigenous Australian Community Service (Day Mode) | 10 |
| HUMN 3070 | Rethinking Research with Indigenous Australians: Independent Study Project (Day Mode) | 10 |

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

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

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

Sustainability Engineering, Minor (https://

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

Advanced Manufacturing, Minor (https://hbook.westernsydney.edu.au/majors-minors/advanced-manufacturing-minor/)

Equivalent Subjects

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

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

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

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

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

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

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

Start-year intake

Credit

10

10

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

| DD 0 01: | | 10 |
|--------------------------|---|----|
| BBus Core Subjec | | 10 |
| Curium accaion | Credit Points | 40 |
| Spring session MATH 1019 | Mathematics for Engineers 2 | 10 |
| ENGR 1018 | Mathematics for Engineers 2 Fundamentals of Mechanics | 10 |
| | | 10 |
| BBus Core Subject | | 10 |
| BBus Core Subject | Credit Points | 40 |
| Year 2 | Credit Follits | 40 |
| Autumn session | | |
| PROC 1006 | Materials Engineering Fundamentals | 10 |
| BBus Professiona | · · · | 10 |
| BBus Professiona | - | 10 |
| BBus Major Subje | • | 10 |
| DDus Major Subje | Credit Points | 40 |
| Spring session | Credit Follits | 40 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| BBus Major Subje | | 10 |
| BBus Major Subje | | 10 |
| BBus Major Subje | Credit Points | 40 |
| Year 3 | Credit Pollits | 40 |
| Autumn session | | |
| ELEC 1006 | Engineering Computing | 10 |
| MECH 2001 | Kinematics and Kinetics of Machines | 10 |
| MECH 2001 | Mechanics of Materials | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| 11100 2003 | Credit Points | 40 |
| Spring session | Credit Follits | 40 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| ENGR 2001 | Automated Manufacturing | 10 |
| MECH 3002 | Advanced Mechanics of Materials | 10 |
| ENGR 2016 | Pavement Materials and Design | 10 |
| LINGH 2010 | Credit Points | 40 |
| Year 4 | Credit Follits | 40 |
| Autumn session | | |
| PROC 3008 | Materials Processing and Applications | 10 |
| MECH 3005 | Mechanical Design | 10 |
| BBus Major Subje | | 10 |
| BBus Major Subje | | 10 |
| BBd3 Wdjor GdbjC | Credit Points | 40 |
| Spring session | oreart i omto | 40 |
| PROC 4001 | Advanced Materials Topics | 10 |
| CIVL 3020 | Sustainable Waste Engineering | 10 |
| BBus Major Subje | <u> </u> | 10 |
| BBus Major Subje | | 10 |
| Industrial Experier | | 10 |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| LINGH 3017 | Credit Points | 40 |
| Year 5 | Great rounts | 40 |
| | | |
| Autumn session | Final Voor Project 1 (IIC Engineering) | 10 |
| ENGR 4025 | Final Year Project 1 (UG Engineering) | 10 |
| PROC 4002 | Engineering Materials from Waste | 10 |
| BBus Professiona | • | 10 |
| BBus Major Subje | | 10 |
| | Credit Points | 40 |

Spring session

| | Total Credit Points | 400 |
|------------------|---------------------------------------|-----|
| | Credit Points | 40 |
| BBus Professiona | al Subject 4 | 10 |
| ENGR 3020 | Numerical Methods in Engineering | 10 |
| MECH 3008 | Thermodynamics and Heat Transfer | 10 |
| ENGR 4026 | Final Year Project 2 (UG Engineering) | 10 |

Equivalent Subjects

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

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

Mid-year intake

| Course | Title | Credit Points |
|----------------------|---------------------------------------|------------------|
| Year 1 | | |
| Spring session | | |
| MATH 1016 | Mathematics for Engineers 1 | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| BBus Core Subject 1 | | 10 |
| BBus Core Subject 2 | | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| MATH 1019 | Mathematics for Engineers 2 | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| BBus Core Subject 3 | | 10 |
| BBus Core Subject 4 | | 10 |
| | Credit Points | 40 |
| Year 2 | | |
| Spring session | | |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| BBus Major Subject | 1 | 10 |
| BBus Major Subject 2 | 2 | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| PROC 1006 | Materials Engineering Fundamentals | 10 |
| BBus Professional St | ubject 1 | 10 |
| BBus Professional St | ubject 2 | 10 |
| BBus Major Subject 3 | 3 | 10 |
| | Credit Points | 40 |
| Year 3 | | |
| Spring session | | |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| ENGR 2001 | Automated Manufacturing | 10 |
| CIVL 3020 | Sustainable Waste Engineering | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| ELEC 1006 | Engineering Computing | 10 |
| MECH 2001 | Kinematics and Kinetics of Machines | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| | Credit Points | 40 |

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

Equivalent Subjects

Vear 4

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

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

Bachelor of Engineering Science

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

* All students undertaking the Bachelor of Engineering Science are required to enrol in MATH 1021 Mathematics for Engineers Preliminary and undertake a readiness test at the beginning of their study.

The readiness test will be conducted at the beginning of the first semester of enrolment and the result will be used to determine whether a student will remain in MATH 1021 Mathematics for Engineers Preliminary or be transferred by the School to MATH 1016 Mathematics for Engineers 1.

Students remaining in MATH 1021 Mathematics for Engineers
Preliminary will be required to complete MATH 1016 Mathematics
for Engineers 1 during second semester and will be encouraged to
complete MATH 1019 Mathematics for Engineers 2 during the Summer
session.

Students who finish MATH 1021 Mathematics for Engineers Preliminary will then use this subject as an elective.

| Start-year inta | ke | |
|----------------------|---------------------------------------|--------|
| Course | Title | Credit |
| Year 1 | | Points |
| Autumn session | | |
| ENGR 1011 | Engineering Physics | 10 |
| PROC 1006 | Materials Engineering Fundamentals | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Select one of the fo | | 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 fo | ollowing: | 10 |
| MATH 1016 | Mathematics for Engineers 1 | |
| MATH 1019 | Mathematics for Engineers 2 | |
| | Credit Points | 40 |
| Year 2 | | |
| Autumn session | | |
| MECH 2003 | Mechanics of Materials | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| ENGR 3029 | Specialisation Workshop 1 | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ENGR 2016 | Pavement Materials and Design | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| MECH 3002 | Advanced Mechanics of Materials | 10 |
| ENGR 3030 | Specialisation Workshop 2 | 10 |
| Industrial Experien | · · · · · · · · · · · · · · · · · · · | |
| ENGR 2033 | Industrial Experience (Engineering | 0 |
| | Technologist) | |
| | Credit Points | 40 |
| Year 3 | | |
| Autumn session | | |
| ENGR 3013 | Engineering Science Project 1 | 10 |
| PROC 3008 | Materials Processing and Applications | 10 |
| MECH 2001 | Kinematics and Kinetics of Machines | 10 |
| Select one elective | | 10 |
| Elective must be | oe Level 2 or higher | |
| | Credit Points | 40 |
| Spring session | | |
| ENGR 3014 | Engineering Science Project 2 | 10 |
| PROC 4001 | Advanced Materials Topics | 10 |
| CIVL 3020 | Sustainable Waste Engineering | 10 |
| Select one elective | | 10 |
| Elective must be | pe Level 2 or higher | |
| | Credit Points | 40 |
| | Total Credit Points | 240 |
| | | |

Equivalent Subjects

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

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

Mid-year intake

| Course | Title | Credit Points |
|-----------------------------|---|------------------|
| Year 1 | | Politis |
| Spring session | | |
| Select one of the f | ollowing: | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | 10 |
| MATH 1016 | Mathematics for Engineers 1 | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| 2220 1000 | Credit Points | 40 |
| Autumn session | oreant rounce | |
| Select one of the f | following: | 10 |
| MATH 1019 | Mathematics for Engineers 2 | |
| MATH 1016 | Mathematics for Engineers 1 | |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| PROC 1006 | Materials Engineering Fundamentals | 10 |
| | Credit Points | 40 |
| Year 2 | | |
| Spring session | | |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| ENGR 2016 | Pavement Materials and Design | 10 |
| ENGR 3029 | Specialisation Workshop 1 | 10 |
| Select one elective | • | 10 |
| Elective must | be Level 2 or higher | |
| | | |
| | Credit Points | 40 |
| Autumn session | | |
| PROC 2003 | Materials Selection and Design | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| ENGR 3030 | Specialisation Workshop 2 | 10 |
| Industrial Experier | | |
| ENGR 2033 | Industrial Experience (Engineering | 0 |
| | Technologist) Credit Points | 40 |
| Year 3 | Credit Points | 40 |
| | | |
| Spring session ENGR 3013 | Engineering Colones Draiget 1 | 10 |
| PROC 4001 | Engineering Science Project 1 | 10 |
| | Advanced Materials Topics | 10 |
| CIVL 3020 | Sustainable Waste Engineering Advanced Mechanics of Materials | 10 |
| MECH 3002 | | 10 |
| A | Credit Points | 40 |
| Autumn session | F | 10 |
| ENGR 3014 | Engineering Science Project 2 | 10 |
| PROC 3008 | Materials Processing and Applications | 10 |
| MECH 2001 | Kinematics and Kinetics of Machines | 10 |
| Select one elective | 2 | 10 |
| | | |

· Elective must be Level 2 or higher

| Credit Points | 40 |
|---------------------|-----|
| Total Credit Points | 240 |

Equivalent Subjects

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

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

Major Sequence 2024

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

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

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

Bachelor of Engineering (Honours) (3740)

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

* All students undertaking the Bachelor of Engineering (Honours) are required to enrol in MATH 1021 Mathematics for Engineers Preliminary and undertake a readiness test at the beginning of their study.

The readiness test will be conducted at the beginning of the first semester of enrolment and the result will be used to determine whether a student will remain in MATH 1021 Mathematics for Engineers Preliminary or be transferred by the School to MATH 1016 Mathematics for Engineers 1.

Students remaining in MATH 1021 Mathematics for Engineers Preliminary will be required to complete MATH 1016 Mathematics for Engineers 1 during second semester and will be encouraged to complete MATH 1019 Mathematics for Engineers 2 during the Summer session.

| Course | Title | Credit Points |
|-----------------------|---------------------------------------|------------------|
| Year 1 | | |
| Autumn session | | |
| ENGR 1011 | Engineering Physics | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| PROC 1006 | Materials Engineering Fundamentals | 10 |
| Select one of the fol | lowing: | 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 |
| FLFC 1003 | Electrical Fundamentals | 10 |

10

| Select one of the it | mownig. | 10 |
|------------------------|---|--------|
| MATH 1016 | Mathematics for Engineers 1 | |
| MATH 1019 | Mathematics for Engineers 2 | |
| | Credit Points | 40 |
| Year 2 | | |
| Autumn session | | |
| MECH 2001 | Kinematics and Kinetics of Machines | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| PROC 1006 | Materials Engineering Fundamentals | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ENGR 2016 | Pavement Materials and Design | 10 |
| ENGR 2001 | Automated Manufacturing | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| Select one elective | | 10 |
| | Credit Points | 40 |
| Year 3 | 5.54.1.5 | |
| Autumn session | | |
| MECH 3005 | Mechanical Design | 10 |
| PROC 3008 | Materials Processing and Applications | 10 |
| CIVL 2003 | Fluid Mechanics | |
| ENGR 2035 | Modern Digital Design and Development | 10 |
| ENGN 2033 | Credit Points | 10 |
| O | Credit Points | 40 |
| Spring session | | 10 |
| PROC 4001 | Advanced Materials Topics | 10 |
| CIVL 3020 | Sustainable Waste Engineering | 10 |
| MECH 3008 | Thermodynamics and Heat Transfer | 10 |
| MECH 3002 | Advanced Mechanics of Materials | 10 |
| Industrial Experience | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| | Credit Points | 40 |
| Year 4 | | |
| Autumn session | | |
| PROC 4002 | Engineering Materials from Waste | 10 |
| ENGR 4041 | Final Year Project 1 (UG Engineering) | 20 |
| Select one elective | or minor subject | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ENGR 4042 | Final Year Project 2 (UG Engineering) | 20 |
| Select two electives | s or minor subjects | 20 |
| | Credit Points | 40 |
| | Total Credit Points | 320 |
| | | |
| Mid-year intak | e | |
| Course | Title | Credit |
| | | Points |
| Year 1 | | |
| Spring session | | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| Select one of the fo | | 10 |
| | Mathematics for Engineers Preliminary | |
| MATH 1021 | Mathematics for Engineers recinimary | |
| MATH 1021 MATH 1016 | Mathematics for Engineers 1 | |

Select one of the following:

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

Bachelor of Engineering Advanced (Honours) (3771)

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

Start-year intake

| Start year inta | | |
|--|---|------------------|
| Course | Title | Credit Points |
| Year 1 | | |
| Autumn session | | |
| MATH 1034 | Mathematics for Engineers 1 (Advanced) | 10 |
| ENGR 1047 | Advanced Engineering Physics 1 | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| | Credit Points | 40 |
| Spring session | | |
| MATH 1035 | Mathematics for Engineers 2 (Advanced) | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 2023 | Advanced Engineering Physics 2 | 10 |
| | Credit Points | 40 |
| Year 2 | | |
| Autumn session | | |
| MECH 2001 | Kinematics and Kinetics of Machines | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| CIVL 2003 | Fluid Mechanics | 10 |
| PROC 1006 | Materials Engineering Fundamentals | 10 |
| 11100 1000 | Credit Points | 40 |
| Spring acceion | Credit Pollits | 40 |
| Spring session ENGR 2032 | Custainshility Analysis and Design | 10 |
| ENGR 2001 | Sustainability Analysis and Design | 10 |
| | Automated Manufacturing | |
| PROC 1008 Select one elective | Introduction to Materials Engineering | 10 10 |
| of completion of 16 of 200 Credit points | o maintain a minimum GPA of 5.0 at the end 60 Credit Points, and again at the completion s will be automatically transferred to the B. urs) (3740) program. | |
| 3 3 (| Credit Points | 40 |
| Year 3 | | |
| Autumn session | | |
| PROC 3008 | Materials Processing and Applications | 10 |
| MECH 3005 | Mechanical Design | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| BUSM 2049 | Creative and Innovative Thinkers | 10 |
| | Credit Points | 40 |
| Spring session | orealt i onits | 40 |
| PROC 4001 | Advanced Materials Topics | 10 |
| CIVL 3020 | Sustainable Waste Engineering | 10 |
| MECH 3008 | • | 10 |
| | Thermodynamics and Heat Transfer | |
| ENGR 2016 | Pavement Materials and Design | 10 |
| Industrial Experience | | 0 |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| | Credit Points | 40 |
| | | |
| Year 4 | | |
| Autumn session | | |
| Autumn session PROC 4002 | Engineering Materials from Waste | |
| Autumn session PROC 4002 ENGR 4043 | Advanced Engineering Thesis 1: Preliminary Investigations | 10 20 |
| Autumn session PROC 4002 | Advanced Engineering Thesis 1: Preliminary Investigations | |

Spring session

| | Total Credit Points | 320 |
|---------------------|--|-----|
| | Credit Points | 40 |
| Select two elective | es or minor subjects | 20 |
| ENGR 4044 | Advanced Engineering Thesis 2: Detailed Investigations | 20 |
| | | |

Equivalent Subjects

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

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

Mid-year intake

ENGR 1024

CIVL 2003

BUSM 2049

Autumn session MECH 3005

| Mid-year inta | ke | |
|--|---|------------------|
| Course | Title | Credit Points |
| Year 1 | | |
| Spring session | | |
| MATH 1034 | Mathematics for Engineers 1 (Advanced) | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 2023 | Advanced Engineering Physics 2 | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| MATH 1035 | Mathematics for Engineers 2 (Advanced) | 10 |
| ENGR 1047 | Advanced Engineering Physics 1 | 10 |
| PROC 1006 | Materials Engineering Fundamentals | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| | Credit Points | 40 |
| Year 2 | | |
| Spring session | | |
| ENGR 2001 | Automated Manufacturing | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Select one elective | ve or Minor subject | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| PROC 2003 | Materials Selection and Design | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| MECH 2001 | Kinematics and Kinetics of Machines | 10 |
| PROC 3008 | Materials Processing and Applications | 10 |
| of completion of of 200 Credit poir | I to maintain a minimum GPA of 5.0 at the end 160 Credit Points, and again at the completion ints will be automatically transferred to the B. mours) (3740) program. | |
| | Credit Points | 40 |
| Year 3 | | |
| Spring session | | |
| PROC 4001 | Advanced Materials Topics | 10 |
| MECH 3008 | Thermodynamics and Heat Transfer | 10 |
| ENGR 2016 | Pavement Materials and Design | 10 |
| | | |

Introduction to Engineering Practice

Creative and Innovative Thinkers

Credit Points

Mechanical Design

Fluid Mechanics

10

40

10

10

10

| Select one electiv | re or minor subject | 10 |
|-----------------------------|---|----|
| Industrial Experie | nce | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| | Credit Points | 40 |
| Year 4 | | |
| Spring session | | |
| ENGR 4043 | Advanced Engineering Thesis 1: Preliminary Investigations | 20 |
| CIVL 3020 | Sustainable Waste Engineering | 10 |
| Select one electiv | re or minor subject | 10 |
| | Credit Points | 40 |
| | orealt i dilito | |
| Autumn session | orealer sime | .0 |
| Autumn session ENGR 4044 | Advanced Engineering Thesis 2: Detailed Investigations | 20 |
| | Advanced Engineering Thesis 2: Detailed | |
| ENGR 4044 PROC 4002 | Advanced Engineering Thesis 2: Detailed Investigations | 20 |
| ENGR 4044 PROC 4002 | Advanced Engineering Thesis 2: Detailed Investigations Engineering Materials from Waste | 20 |

Equivalent Subjects

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

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

Bachelor of Engineering (Honours)/ Bachelor of Business (3800)

Qualification for this award requires the successful completion of 440 credit points, which include the subjects listed in the recommended sequence below.

| Course | Title | Credit Points |
|----------------------|--------------------------------------|------------------|
| Year 1 | | Points |
| Autumn session | | |
| MATH 1016 | Mathematics for Engineers 1 | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| BBus Core Subject 1 | | 10 |
| BBus Core Subject 2 | | 10 |
| | Credit Points | 40 |
| Spring session | | |
| MATH 1019 | Mathematics for Engineers 2 | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| BBus Core Subject 3 | | 10 |
| | Credit Points | 40 |
| Year 2 | | |
| Autumn session | | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| BBus Professional Su | ubject 1 | 10 |
| BBus Professional Su | ubject 2 | 10 |
| BBus Core Subject 4 | | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ENGR 1024 | Introduction to Engineering Practice | 10 |

| ELEC 1006 | Engineering Computing | 10 |
|--|--|-------------|
| MECH 3008 | Thermodynamics and Heat Transfer | 10 |
| ENGR 2016 | Pavement Materials and Design | 10 |
| LINGIT ZOTO | Credit Points | 4 |
| Year 3 | Cledit Foliits | |
| Autumn session | | |
| PROC 1006 | Matariala Engineering Fundamentale | 1 |
| | Materials Engineering Fundamentals Kinematics and Kinetics of Machines | • |
| MECH 2001 | | 1 |
| MECH 2003 | Mechanics of Materials | 1 |
| PROC 2003 | Materials Selection and Design | 1 |
| | Credit Points | 4 |
| Spring session | | - |
| ENGR 2032 | Sustainability Analysis and Design | 1 |
| ENGR 2001 | Automated Manufacturing | 1 |
| BBus Major Subje | | 1 |
| BBus Major Subje | ct 2 | 1 |
| | Credit Points | 4 |
| Year 4 | | |
| Autumn session | | |
| PROC 3008 | Materials Processing and Applications | 1 |
| MECH 3005 | Mechanical Design | 1 |
| BBus Major Subje | ct 3 | 1 |
| BBus Major Subje | ct 4 | 1 |
| | Credit Points | 4 |
| Spring session | | |
| PROC 4001 | Advanced Materials Topics | 1 |
| CIVL 3020 | Sustainable Waste Engineering | 1 |
| BBus Major Subje | ct 5 | 1 |
| BBus Major Subje | ct 6 | 1 |
| Industrial Experies | | |
| ENGR 3017 | Industrial Experience (Engineering) | |
| | Credit Points | 4 |
| Year 5 | | |
| Autumn session | | |
| MECH 3002 | Advanced Mechanics of Materials | 1 |
| ENGR 2035 | Modern Digital Design and Development | 1 |
| BBus Major Subje | | 1 |
| BBus Major Subje | | 1 |
| DDUS Major Subje | Credit Points | 4 |
| Caring accoion | Cledit Foliits | 4 |
| Spring session ENGR 4041 | Final Vacy Dyniagt 1 (LIC Engineering) | 2 |
| | Final Year Project 1 (UG Engineering) | 2 |
| BBus Professiona | - | 1 |
| BBus Professiona | | 1 |
| | Credit Points | 4 |
| Van C | | |
| | | |
| Autumn session | 5. 1 5 | |
| Autumn session ENGR 4042 | Final Year Project 2 (UG Engineering) | |
| Year 6 Autumn session ENGR 4042 PROC 4002 | Engineering Materials from Waste | 1 |
| Autumn session ENGR 4042 | | 2 1 1 |

| Mid-year intake | | |
|--|---|-----------------|
| Course | Title | Credit |
| | | Points |
| Year 1 | | |
| Spring session | Mathematica for Engineers 1 | 10 |
| MATH 1016 | Mathematics for Engineers 1 Fundamentals of Mechanics | 10 |
| ENGR 1018 BBus Core Subject 1 | | 10 |
| BBus Core Subject 1 | | 10 |
| bbus core subject 2 | Credit Points | 40 |
| Autumn session | orealt rollits | 40 |
| MATH 1019 | Mathematics for Engineers 2 | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| | Credit Points | 40 |
| Year 2 | | |
| Spring session | | |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| BBus Core Subject 3 | | 10 |
| BBus Core Subject 4 | | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| PROC 1006 | Materials Engineering Fundamentals | 10 |
| MECH 2001 | Kinematics and Kinetics of Machines | 10 |
| MECH 2003 PROC 2003 | Mechanics of Materials | 10 |
| PRUC 2003 | Materials Selection and Design Credit Points | 10 40 |
| Year 3 | Credit Points | 40 |
| Spring session | | |
| MECH 3008 | Thermodynamics and Heat Transfer | 10 |
| ENGR 2016 | Pavement Materials and Design | 10 |
| BBus Professional S | • | 10 |
| BBus Professional S | Subject 2 | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| PROC 3008 | Materials Processing and Applications | 10 |
| MECH 3005 | Mechanical Design | 10 |
| BBus Major Subject | 1 | 10 |
| BBus Major Subject | 2 | 10 |
| | Credit Points | 40 |
| Year 4 | | |
| Spring session | | |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| ENGR 2001 | Automated Manufacturing | 10 |
| BBus Major Subject | | 10 |
| BBus Major Subject | | 10 |
| | Credit Points | 40 |
| Autumn session | Advanced Machanias of Married | 10 |
| MECH 3002 | Advanced Mechanics of Materials | 10 |
| ENGR 2035 | Modern Digital Design and Development | 10 10 |
| BBus Major Subject 5 | | |
| BBus Major Subject 6 Industrial Experience | | |
| | | |

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

Bachelor of Engineering Science (3691)

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

* All students undertaking the Bachelor of Engineering Science are required to enrol in MATH 1021 Mathematics for Engineers Preliminary and undertake a readiness test at the beginning of their study.

The readiness test will be conducted at the beginning of the first semester of enrolment and the result will be used to determine whether a student will remain in MATH 1021 Mathematics for Engineers Preliminary or be transferred by the School to MATH 1016 Mathematics for Engineers 1.

Students remaining in MATH 1021 Mathematics for Engineers Preliminary will be required to complete MATH 1016 Mathematics for Engineers 1 during second semester and will be encouraged to complete MATH 1019 Mathematics for Engineers 2 during the Summer session.

Students who finish MATH 1021 Mathematics for Engineers Preliminary will then use this subject as an elective.

| Course | Title | Credit Points |
|------------------------------|---------------------------------------|------------------|
| Year 1 | | Politis |
| 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 |

| MATH 1016 | Watternatics for Engineers i | |
|--------------------------|---------------------------------------|-----------------|
| NAATIL 101C | Mathematics for Engineers 1 | |
| MATH 1021 | Mathematics for Engineers Preliminary | |
| Select one of the fo | - | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| Spring session | | |
| Year 1 | | |
| Course | Title | Credi Points |
| Mid-year intake | | 0 |
| Mid voor intele | | |
| | Total Credit Points | 240 |
| | Credit Points | 40 |
| Elective must be | e Level 2 or higher | |
| Select one elective | | 10 |
| CIVL 3020 | Sustainable Waste Engineering | 10 |
| PROC 4001 | Advanced Materials Topics | 10 |
| ENGR 3014 | Engineering Science Project 2 | 10 |
| Spring session | | |
| | Credit Points | 40 |
| Select one elective | | 10 |
| MECH 2001 | Kinematics and Kinetics of Machines | 10 |
| PROC 3008 | Materials Processing and Applications | 10 |
| ENGR 3013 | Engineering Science Project 1 | 10 |
| Year 3 Autumn session | | |
| Year 3 | Credit Points | 40 |
| | Technologist) | |
| ENGR 2033 | Industrial Experience (Engineering | (|
| Industrial Experienc | | |
| ENGR 3030 | Specialisation Workshop 2 | 10 |
| MECH 3002 | Advanced Mechanics of Materials | 10 |
| ENGR 2032 | Sustainability Analysis and Design | 10 |
| ENGR 2016 | Pavement Materials and Design | 10 |
| Spring session | | |
| | Credit Points | 40 |
| ENGR 3029 | Specialisation Workshop 1 | 10 |
| PROC 2003 | Materials Selection and Design | 10 |
| PROC 1006 | Materials Engineering Fundamentals | 10 |
| MECH 2003 | Mechanics of Materials | 10 |
| Year 2 Autumn session | | |
| V0 | Credit Points | 40 |
| MATH 1019 | Mathematics for Engineers 2 | |
| MATH 1016 | Mathematics for Engineers 1 | |
| Select one of the fo | lowing: | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| | Fundamentals of Mechanics | |

Engineering Computing

Introduction to Engineering Practice

Engineering Physics

Autumn session ELEC 1006

ENGR 1011

ENGR 1024

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

Related Programs

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10

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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.we stern sydney.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/)