ELECTRICAL ENGINEERING, TESTAMUR MAJOR (T102)

Western Sydney University Major Code: T102

Previous Code: KT3172, MT3053

Available to students in other Western Sydney University programs?

Handbook Summary Summary 2022-2023

The Electrical Engineering major includes core subjects from all branches of electrical engineering. Graduates will work in the fields of electronic components, computers, electro-magnetics, power generation and distribution systems, power and control in public utilities, telecommunications, manufacturing, and electrical systems. This major includes a mandatory 12-week industrial placement as a completion requirement.

Summary 2024

The Electrical Engineering major includes core subjects from all branches of electrical engineering. Graduates will work in the fields of electronic components, computers, electro-magnetics, power generation and distribution systems, power and control in public utilities, telecommunications, manufacturing, and electrical systems. All students complete a mandatory 300 to 450 hour industrial placement.

Location

| Campus | Mode | Advice | Α |
|---|----------|--|------------|
| Parramatta Campus - Victoria Road | Internal | Major Advice (edbe@westernsydney.e | E edu E |
| Parramatta City Campus-Macquarie Street | Internal | Major advice (edbe@westernsydney.e | edus |
| Penrith Campus | Internal | Major Advice (edbe@westernsydney.e | edua |
| Sydney City Campus* | Internal | Major Advice (edbe@westernsydney.e | edu Ş |
| Surabaya Campus - Indonesia | Internal | Major Advice (https:// hbook.westernsydney.ed majors-minors/ electrical-engineering- ug-testamur-major/ edbe@westernsydney.ed | P |

^{*} Curriculum delivered through an agreement with another party

Major Sequence Current

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

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

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

Bachelor of Engineering Science (3691)

This major will be offered at Parramatta South, Penrith, Sydney City and Surabaya Indonesia campuses.

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

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

Start-vear intake

| | Course | Title | Credit Points |
|------------|--------------------------|---------------------------------------|------------------|
| | Year 1 | | |
| | Autumn session | | |
| | ELEC 1006 | Engineering Computing | 10 |
| y.edu | ENGR 1011 | Engineering Physics | 10 |
| | ENGR 1024 | Introduction to Engineering Practice | 10 |
| y.edu | Select one of the foll | owing: | 10 |
| | MATH 1021 | Mathematics for Engineers Preliminary | |
| | MATH 1016 | Mathematics for Engineers 1 | |
| y.edu | • | Credit Points | 40 |
| v adı | Spring session | | |
| y.cuc / | ELEC 1003 | Electrical Fundamentals | 10 |
| .edu. | ENGR 1018 | Fundamentals of Mechanics | 10 |
| | PROC 1008 | Introduction to Materials Engineering | 10 |
| - | Select one of the foll | owing: | 10 |
| | MATH 1019 | Mathematics for Engineers 2 | |
| .edu | au) _{MATH} 1016 | Mathematics for Engineers 1 | |
| | | Credit Points | 40 |

| | Credit Points | 40 |
|---------------------------|-------------------------------|----|
| ENGR 3006 | Control Systems | 10 |
| ELEC 3011 | Power and Machines | 10 |
| ELEC 2009 | Microprocessor Systems | 10 |
| ENGR 3030 | Specialisation Workshop 2 | 10 |
| Spring session | | |
| · | Credit Points | 40 |
| ELEC 1001 | Digital Systems 1 | 10 |
| ELEC 2011 | Signals and Systems | 10 |
| ELEC 2001 | Circuit Theory | 10 |
| ENGR 3029 | Specialisation Workshop 1 | 10 |
| Autumn session | | |
| Year 2 | | |
| | Credit Points | 40 |
| .au) _{MATH 1016} | Mathematics for Engineers 1 | |
| | matricination for Engineero E | |

| Year 3 | | | Autumn session | | |
|----------------------|--|--------|-------------------|--|------------------|
| Autumn session | | | ENGR 3014 | Engineering Science Project 2 | 10 |
| ENGR 3013 | Engineering Science Project 1 | 10 | ELEC 3001 | Communication Systems | 10 |
| ELEC 3001 | Communication Systems | 10 | ELEC 3006 | Electrical Machines 1 | 10 |
| ELEC 3006 | Electrical Machines 1 | 10 | ELEC 2004 | Electronics | 10 |
| ELEC 2004 | Electronics | 10 | Industrial Experi | ence | |
| Spring session | Credit Points | 40 | ENGR 2033 | Industrial Experience (Engineering Technologist) | 0 |
| ENGR 3014 | Engineering Science Project 2 | 10 | | Credit Points | 40 |
| ELEC 3003 | Digital Signal Processing | 10 | | Total Credit Points | 240 |
| Select two elective | es (Level 2 or higher) | 20 | | | |
| Industrial Experien | | | Surabaya Ca | mpus Indonesia | |
| ENGR 2033 | Industrial Experience (Engineering Technologist) | 0 | Course | Title | Credit Points |
| | Credit Points | 40 | Year 1 | | |
| | Total Credit Points | 240 | Semester 1 | | |
| | | | MATH 1016 | Mathematics for Engineers 1 | 10 |
| Mid-year intak | e | | ELEC 1003 | Electrical Fundamentals | 10 |
| Course | Title | Credit | ENGR 1018 | Fundamentals of Mechanics | 10 |
| | | Points | ENGR 1011 | Engineering Physics | 10 |
| Year 1 | | | CULT 1030 | Pancasila | 5 |
| Spring session | | | Semester 2 | | |
| ELEC 1003 | Electrical Fundamentals | 10 | MATH 1019 | Mathematics for Engineers 2 | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 | ELEC 1006 | Engineering Computing | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 | ENGR 1024 | Introduction to Engineering Practice | 10 |
| Select one of the fo | ollowing: | 10 | ELEC 1001 | Digital Systems 1 | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | | CULT 1031 | Civic Education | 5 |
| MATH 1016 | Mathematics for Engineers 1 | | | Credit Points | 90 |
| | Credit Points | 40 | Year 2 | | |
| Autumn session | | | Semester 3 | | |
| ELEC 1006 | Engineering Computing | 10 | ENGR 3029 | Specialisation Workshop 1 | 10 |
| ENGR 1011 | Engineering Physics | 10 | PROC 1008 | Introduction to Materials Engineering | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 | ELEC 2009 | Microprocessor Systems | 10 |
| Select one of the fo | ollowing: | 10 | LANG 1036 | Indonesian Language | 5 |
| MATH 1019 | Mathematics for Engineers 2 | | Semester 4 | | |
| MATH 1016 | Mathematics for Engineers 1 | | ENGR 3030 | Specialisation Workshop 2 | 10 |
| | Credit Points | 40 | ELEC 2001 | Circuit Theory | 10 |
| Year 2 | | | ELEC 2011 | Signals and Systems | 10 |
| Spring session | | | PHIL 1008 | Religion | 5 |
| ENGR 3029 | Specialisation Workshop 1 | 10 | | Credit Points | 70 |
| ELEC 2009 | Microprocessor Systems | 10 | Year 3 | | |
| ELEC 3011 | Power and Machines | 10 | Semester 5 | | |
| ENGR 3006 | Control Systems | 10 | ENGR 3013 | Engineering Science Project 1 | 10 |
| | Credit Points | 40 | ELEC 3011 | Power and Machines | 10 |
| Autumn session | | | ELEC 3003 | Digital Signal Processing | 10 |
| ENGR 3030 | Specialisation Workshop 2 | 10 | ENGR 3006 | Control Systems | 10 |
| ELEC 2001 | Circuit Theory | 10 | Semester 6 | | |
| ELEC 2011 | Signals and Systems | 10 | ENGR 3014 | Engineering Science Project 2 | 10 |
| ELEC 1001 | Digital Systems 1 | 10 | ELEC 3001 | Communication Systems | 10 |
| | Credit Points | 40 | ELEC 3006 | Electrical Machines 1 | 10 |
| Year 3 | | | ELEC 2004 | Electronics | 10 |
| Spring session | | | Industrial Experi | ence | |
| ENGR 3013 | Engineering Science Project 1 | 10 | ENGR 2033 | Industrial Experience (Engineering | 0 |
| ELEC 3003 | Digital Signal Processing | 10 | | Technologist) | |
| | es (Level 2 or higher) | 20 | | Credit Points | 80 |
| | | - | | | |

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

Course

Year 1

| | Credit Points | 40 |
|-----------------------------|--|----|
| ENGR 3017 | Industrial Experience (Engineering) Credit Points | 0 |
| Industrial Experience | | |
| ELEC 3004 | Digital Systems 2 | 10 |
| ELEC 4008 | Electrical Drives | 10 |
| ELEC 3003 | Digital Signal Processing | 10 |
| ELEC 3009 | Power Systems | 10 |
| Spring session | | |
| | Credit Points | 40 |
| Select one elective** | or Minor subjects | 10 |
| BUSM 2049 | Creative and Innovative Thinkers | 10 |
| ELEC 3006 | Electrical Machines 1 | 10 |
| ELEC 3001 | Communication Systems | 10 |
| Autumn session | | |
| Year 3 | | |
| | Credit Points | 40 |
| of completion of 160 | Credit Points, and again at the completion will be automatically transferred to the B. | |
| | maintain a minimum GPA of 5.0 at the end | 10 |
| Select one elective** | | 10 |
| COMP 2008 | Computer Organisation | 10 |
| ELEC 2009 | Power and Machines | 10 |
| ELEC 2009 | Microprocessor Systems | 10 |
| Spring session | Great Fullts | 40 |
| LLLG 2011 | Credit Points | 40 |
| ELEC 2004 | Signals and Systems | 10 |
| ELEC 2004 | Electronics | 10 |
| ELEC 1001 | Digital Systems 1 | 10 |
| Autumn session ELEC 2001 | Circuit Theory | 10 |
| Year 2 | | |
| Vara 0 | Credit Points | 40 |
| ENGR 1018 | Credit Points | 10 |
| ENGR 2023 ENGR 1018 | Advanced Engineering Physics 2 Fundamentals of Mechanics | 10 |
| MATH 1035 | Mathematics for Engineers 2 (Advanced) | 10 |
| | | |
| Spring session ELEC 1003 | Electrical Fundamentals | 10 |
| Spring occion | Credit Points | 40 |
| ELEC 1006 | Engineering Computing | 10 |
| ENGR 1047 | Advanced Engineering Physics 1 | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| MATH 1034 | Mathematics for Engineers 1 (Advanced) | 10 |
| Autumn session | | |
| | | |

Year 4 Autumn session

| / tataiiiii ocooloii | | |
|-----------------------|--|-----|
| ELEC 4002 | Power Electronics | 10 |
| ENGR 4043 | Advanced Engineering Thesis 1: Preliminary Investigations | 20 |
| Select one elective** | or Minor subject | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ELEC 4009 | Instrumentation and Measurement | 10 |
| ENGR 4044 | Advanced Engineering Thesis 2: Detailed Investigations | 20 |
| Select one elective** | or Minor subject | 10 |
| | Credit Points | 40 |
| | Total Credit Points | 320 |

Optional Elective

Credit Points

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

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 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 2023 | Advanced Engineering Physics 2 | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| MATH 1035 | Mathematics for Engineers 2 (Advanced) | 10 |
| ELEC 1001 | Digital Systems 1 | 10 |
| ENGR 1047 | Advanced Engineering Physics 1 | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| | Credit Points | 40 |
| Year 2 | | |
| Spring session | | |
| ELEC 2011 | Signals and Systems | 10 |
| ELEC 2009 | Microprocessor Systems | 10 |
| COMP 2008 | Computer Organisation | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| ELEC 2001 | Circuit Theory | 10 |
| ELEC 2004 | Electronics | 10 |
| Select two electives | ** or Minor subjects | 20 |

^{**} Electives must be Level 2 or higher

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 | | |
| ELEC 3009 | Power Systems | 10 |
| ELEC 3003 | Digital Signal Processing | 10 |
| ELEC 3011 | Power and Machines | 10 |
| ELEC 3004 | Digital Systems 2 | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| ELEC 3001 | Communication Systems | 10 |
| ELEC 3006 | Electrical Machines 1 | 10 |
| BUSM 2049 | Creative and Innovative Thinkers | 10 |
| Select one elective* | * or Minor subject | 10 |
| Industrial Experience | e | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| | Credit Points | 40 |
| Year 4 | | |
| Spring session | | |
| ENGR 4043 | Advanced Engineering Thesis 1: | 20 |
| | Preliminary Investigations | |
| ELEC 4009 | Instrumentation and Measurement | 10 |
| ELEC 4008 | Electrical Drives | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| ENGR 4044 | Advanced Engineering Thesis 2: Detailed Investigations | 20 |
| ELEC 4002 | Power Electronics | 10 |
| Select one elective* | * or minor subject | 10 |
| | Credit Points | 40 |
| | Total Credit Points | 320 |

Optional Elective

The following subject is an optional elective unit 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

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)

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

* All students undertaking the Bachelor of Engineering (Honours) are required to enrol in MATH 1021 Mathematics for Engineers

Preliminary and undertake a readiness test at the beginning of their study.

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

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

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

0---

Start-year intake

| Course | Title | Credit Points |
|------------------------|---------------------------------------|------------------|
| Year 1 | | |
| Autumn session | | |
| ENGR 1011 | Engineering Physics | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| Select one of the foll | owing: | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | |
| MATH 1016 | Mathematics for Engineers 1 | |
| | Credit Points | 40 |
| Spring session | | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Select one of the foll | owing: | 10 |
| MATH 1019 | Mathematics for Engineers 2 | |
| MATH 1016 | Mathematics for Engineers 1 | |
| | Credit Points | 40 |
| Year 2 | | |
| Autumn session | | |
| ELEC 2001 | Circuit Theory | 10 |
| ELEC 2004 | Electronics | 10 |
| ELEC 2011 | Signals and Systems | 10 |
| ELEC 1001 | Digital Systems 1 | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ELEC 2009 | Microprocessor Systems | 10 |
| ELEC 2006 | Engineering Electromagnetics | 10 |
| ELEC 3011 | Power and Machines | 10 |
| ENGR 3006 | Control Systems | 10 |
| | Credit Points | 40 |
| Year 3 | | |
| Autumn session | | |
| ELEC 3001 | Communication Systems | 10 |
| ELEC 3006 | Electrical Machines 1 | 10 |
| ELEC 2007 | Engineering Visualization | 10 |
| Select one elective** | or minor subject | 10 |
| | Credit Points | 40 |

| Spring session | | |
|-----------------------|---------------------------------------|-----|
| ELEC 3002 | Data Communications | 10 |
| ELEC 3003 | Digital Signal Processing | 10 |
| ELEC 3004 | Digital Systems 2 | 10 |
| Select one elective** | or minor subject | 10 |
| Industrial Experience | e | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| | Credit Points | 40 |
| Year 4 | | |
| Autumn session | | |
| ELEC 4002 | Power Electronics | 10 |
| ENGR 4041 | Final Year Project 1 (UG Engineering) | 20 |
| Select one elective** | or minor subject | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ELEC 4009 | Instrumentation and Measurement | 10 |
| ENGR 4042 | Final Year Project 2 (UG Engineering) | 20 |
| 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 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Select one of the fol | lowing: | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | |
| MATH 1016 | Mathematics for Engineers 1 | |
| | Credit Points | 40 |
| Autumn session | | |
| ENGR 1011 | Engineering Physics | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| ELEC 1001 | Digital Systems 1 | 10 |
| Select one of the fol | lowing: | 10 |
| MATH 1019 | Mathematics for Engineers 2 | |
| MATH 1016 | Mathematics for Engineers 1 | |
| | Credit Points | 40 |
| Year 2 | | |
| Spring session | | |
| ELEC 2009 | Microprocessor Systems | 10 |
| ELEC 2006 | Engineering Electromagnetics | 10 |
| ELEC 3004 | Digital Systems 2 | 10 |
| Select one elective* | * or minor subject | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| ELEC 2011 | Signals and Systems | 10 |
| ELEC 2004 | Electronics | 10 |
| ELEC 2001 | Circuit Theory | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| | Credit Points | 40 |

| ror minor subject Credit Points Power Electronics Final Year Project 2 (UG Engineering) or minor subject Credit Points | 10 40 10 20 10 40 |
|--|--|
| Credit Points Power Electronics Final Year Project 2 (UG Engineering) | 40 10 20 |
| Credit Points Power Electronics | 40 |
| Credit Points | 40 |
| - | |
| - | |
| or minor subject | 10 |
| r mar rear r roject r (oo Engineening) | 20 |
| | 20 |
| Instrumentation and Measurement | 10 |
| | |
| Credit Points | 40 |
| Industrial Experience (Engineering) | 0 |
| 2 | |
| or minor subject | 10 |
| Engineering Visualization | 10 |
| Electrical Machines 1 | 10 |
| Communication Systems | 10 |
| Credit Points | 40 |
| Control Systems | 10 |
| Power and Machines | 10 |
| Digital Signal Processing | 10 |
| Data Communications | 10 |
| | |
| | |
| | Digital Signal Processing Power and Machines Control Systems Credit Points Communication Systems Electrical Machines 1 Engineering Visualization or minor subject Industrial Experience (Engineering) |

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 |
|---------------------|---------------------------------------|--------|
| oouise | Title | Points |
| Year 1 | | |
| Autumn session | | |
| MATH 1016 | Mathematics for Engineers 1 | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| BBus Core Subject 1 | | 10 |
| BBus Core Subject 2 | | 10 |
| | Credit Points | 40 |
| Spring session | | |
| MATH 1019 | Mathematics for Engineers 2 | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| BBus Core Subject 3 | | 10 |
| BBus Core Subject 4 | | 10 |
| | Credit Points | 40 |
| Year 2 | | |
| Autumn session | | |
| ELEC 1006 | Engineering Computing | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| ELEC 1001 | Digital Systems 1 | 10 |

| ELEC 3002 BBus Major Subje | Data Communications act 4 | 10 10 |
|---|---|--|
| BBus Major Subje | | |
| | Credit Points | 40 |
| Year 4 | | |
| Autumn session | 0 | 10 |
| ELEC 3001 | Communication Systems | 10 |
| ELEC 2007 | Engineering Visualization | 10 |
| BBus Professiona | - | 10 |
| BBus Major Subje | | 10 |
| O | Credit Points | 40 |
| Spring session | For air and a Florence and air | 10 |
| ELEC 2006 | Engineering Electromagnetics | 10 |
| ENGR 3006 | Control Systems | 10 |
| ELEC 3003 | Digital Signal Processing | 10 |
| BBus Major Subje | | 10 |
| Industrial Experie | | 0 |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| | Credit Points | 40 |
| | | |
| Year 5 | | |
| Autumn session | | |
| Autumn session ELEC 3006 | Electrical Machines 1 | |
| Autumn session ELEC 3006 BBus Professiona | I Subject 3 | 10 |
| Autumn session ELEC 3006 BBus Professiona BBus Major Subje | Il Subject 3 | 10 10 |
| Autumn session ELEC 3006 BBus Professiona | Il Subject 3 ect 7 ect 8 | 10 10 |
| Autumn session ELEC 3006 BBus Professiona BBus Major Subje BBus Major Subje | Il Subject 3 | 10 10 10 |
| Autumn session ELEC 3006 BBus Professiona BBus Major Subje BBus Major Subje Spring session | Il Subject 3 ect 7 ect 8 | 10 10 10 |
| Autumn session ELEC 3006 BBus Professiona BBus Major Subje BBus Major Subje Spring session ELEC 4009 | Il Subject 3 act 7 act 8 Credit Points Instrumentation and Measurement | 10 10 10 40 |
| Autumn session ELEC 3006 BBus Professiona BBus Major Subje BBus Major Subje Spring session | Il Subject 3 act 7 act 8 Credit Points | 10 10 10 40 |
| Autumn session ELEC 3006 BBus Professiona BBus Major Subje BBus Major Subje Spring session ELEC 4009 | Il Subject 3 act 7 act 8 Credit Points Instrumentation and Measurement Final Year Project 1 (UG Engineering) | 10 10 10 40 10 20 |
| Autumn session ELEC 3006 BBus Professiona BBus Major Subje BBus Major Subje Spring session ELEC 4009 ENGR 4041 | Il Subject 3 act 7 act 8 Credit Points Instrumentation and Measurement Final Year Project 1 (UG Engineering) | 10 10 10 40 10 20 |
| Autumn session ELEC 3006 BBus Professiona BBus Major Subje BBus Major Subje Spring session ELEC 4009 ENGR 4041 | I Subject 3 cct 7 cct 8 Credit Points Instrumentation and Measurement Final Year Project 1 (UG Engineering) I Subject 4 | 10 10 10 40 10 20 |
| Autumn session ELEC 3006 BBus Professiona BBus Major Subje BBus Major Subje Spring session ELEC 4009 ENGR 4041 BBus Professiona | I Subject 3 cct 7 cct 8 Credit Points Instrumentation and Measurement Final Year Project 1 (UG Engineering) I Subject 4 | 10 10 10 40 10 20 |
| Autumn session ELEC 3006 BBus Professiona BBus Major Subje BBus Major Subje Spring session ELEC 4009 ENGR 4041 BBus Professiona Year 6 | I Subject 3 cct 7 cct 8 Credit Points Instrumentation and Measurement Final Year Project 1 (UG Engineering) I Subject 4 | 10 10 10 40 10 20 10 |
| Autumn session ELEC 3006 BBus Professiona BBus Major Subje BBus Major Subje Spring session ELEC 4009 ENGR 4041 BBus Professiona Year 6 Autumn session | I Subject 3 cct 7 cct 8 Credit Points Instrumentation and Measurement Final Year Project 1 (UG Engineering) Il Subject 4 Credit Points | 10 10 10 40 40 10 20 10 40 |
| Autumn session ELEC 3006 BBus Professiona BBus Major Subje BBus Major Subje Spring session ELEC 4009 ENGR 4041 BBus Professiona Year 6 Autumn session ELEC 4002 | I Subject 3 act 7 act 8 Credit Points Instrumentation and Measurement Final Year Project 1 (UG Engineering) I Subject 4 Credit Points Power Electronics | 10 10 10 40 10 20 10 40 |

Major Sequence 2022-23

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

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

Please follow the recommended sequence for your program as noted below

3691 Bachelor of Engineering Science

This major will be offered at Parramatta South, 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 sequence below.

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

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

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

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

Start-year intake

| Course | Title | Credit Points |
|------------------------|---------------------------------------|------------------|
| Year 1 | | |
| Autumn session | | |
| Select one of the foll | owing: | 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 foll | owing: | 10 |
| MATH 1019 | Mathematics for Engineers 2 | |
| MATH 1016 | Mathematics for Engineers 1 | |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| Select one elective | | 10 |
| | Credit Points | 40 |
| Year 2 | | |
| Autumn session | | |
| ENGR 3029 | Specialisation Workshop 1 | 10 |
| ELEC 2001 | Circuit Theory | 10 |

| ELEC 2011 | Signals and Systems | 10 |
|------------------------|------------------------------------|-----|
| ELEC 1001 | Digital Systems 1 | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ENGR 3030 | Specialisation Workshop 2 | 10 |
| ELEC 2009 | Microprocessor Systems | 10 |
| ELEC 3011 | Power and Machines | 10 |
| ENGR 3006 | Control Systems | 10 |
| | Credit Points | 40 |
| Year 3 | | |
| Autumn session | | |
| ENGR 3013 | Engineering Science Project 1 | 10 |
| ELEC 3001 | Communication Systems | 10 |
| ELEC 3006 | Electrical Machines 1 | 10 |
| ELEC 2004 | Electronics | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ENGR 3014 | Engineering Science Project 2 | 10 |
| ELEC 3009 | Power Systems | 10 |
| ELEC 3003 | Digital Signal Processing | 10 |
| Select one elective (I | Level 2 or higher) | 10 |
| Industrial Experience | | |
| ENGR 2033 | Industrial Experience (Engineering | 0 |
| | Technologist) | |
| | Credit Points | 40 |
| | Total Credit Points | 240 |

Mid-year intake

Title

Course

ELEC 2009

ELEC 3011

ENGR 3006

| | | Points |
|---|---------------------------------------|--------|
| Year 1 | | |
| Spring session | | |
| Select one of the fol | lowing: | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | |
| MATH 1016 | Mathematics for Engineers 1 | |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| Select one of the following: | | 10 |
| MATH 1019 | Mathematics for Engineers 2 | |
| MATH 1016 | Mathematics for Engineers 1 | |
| ELEC 1006 | Engineering Computing | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| Select one elective | | 10 |
| Elective unit must be Level 1 or higher | | |
| | Credit Points | 40 |
| Year 2 | | |
| Spring session | | |
| ENGR 3029 | Specialisation Workshop 1 | 10 |

Microprocessor Systems

Power and Machines

Control Systems

Credit Points

| | Total Credit Points | 240 |
|-----------------------|---|----------|
| | Credit Points | 40 |
| ENGR 2033 | Industrial Experience (Engineering Technologist) | 0 |
| Industrial Experience | ce | |
| ELEC 2004 | Electronics | 10 |
| ELEC 3006 | Electrical Machines 1 | 10 |
| ELEC 3001 | Communication Systems | 10 |
| ENGR 3014 | Engineering Science Project 2 | 10 |
| Autumn session | | |
| | Credit Points | 40 |
| Select one elective | 5 5 | 10 |
| ELEC 3003 | Digital Signal Processing | 10 |
| ELEC 3009 | Power Systems | 10 |
| ENGR 3013 | Engineering Science Project 1 | 10 |
| Spring session | | |
| Year 3 | Credit Points | 40 |
| ELEC 1001 | Digital Systems 1 Credit Points | 10 40 |
| ELEC 2011 | Signals and Systems | 10 |
| ELEC 2001 | Circuit Theory | 10 |
| ENGR 3030 | Specialisation Workshop 2 | 10 |
| Autumn session | | |
| | | |

3771 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 in the recommended sequence below.

Start-year intake

Credit

10

10

10

40

| otart year mear | | |
|-----------------|--|------------------|
| 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 2023 | Advanced Engineering Physics 2 | 10 |
| COMP 2008 | Computer Organisation | 10 |
| | Credit Points | 40 |
| Year 2 | | |
| Autumn session | | |
| ELEC 2013 | Circuits and Signals | 10 |
| ELEC 1001 | Digital Systems 1 | 10 |
| ELEC 2004 | Electronics | 10 |
| ELEC 2014 | Mathematics for Electrical Engineers 1 | 10 |
| | Credit Points | 40 |

| Spring session | | |
|--|--|------------------|
| ELEC 2009 | Microprocessor Systems | 10 |
| ELEC 3011 | Power and Machines | 10 |
| ELEC 2015 | Mathematics for Electrical Engineers 2 | 10 |
| Select one elective | /e | 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 nts will be automatically transferred to the B. sours) (3740) program. | |
| | Credit Points | 40 |
| Year 3 | | |
| Autumn session | | |
| ELEC 3001 | Communication Systems | 10 |
| ELEC 3006 | Electrical Machines 1 | 10 |
| Select one alterna | ate subject | 10 |
| Select one electiv | /e | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ELEC 3009 | Power Systems | 10 |
| ELEC 3003 | Digital Signal Processing | 10 |
| ELEC 4008 | Electrical Drives | 10 |
| Select one elective | /e | 10 |
| Industrial Experie | ence | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| | Credit Points | 40 |
| Year 4 | | |
| Autumn session | | |
| ELEC 4002 | Power Electronics | 10 |
| ENGR 4037 | Advanced Engineering Thesis 1: | 10 |
| | Preliminary Investigations | |
| Select one alterna | ate subject | 10 |
| Select one elective | /e | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ELEC 4009 | Instrumentation and Measurement | 10 |
| ENGR 4036 | Advanced Engineering Thesis 2: Detailed Investigations | 10 |
| Select two alterna | ate subjects | 20 |
| | Credit Points | 40 |
| | Total Credit Points | 320 |
| Alternate Subject | s | |
| Subject | Title | Credit Points |

| Subject | Title | Credit Points |
|-----------|--|------------------|
| HLTH 2003 | Biomechanics | 10 |
| ENGR 3003 | Biomedical Electronics | 10 |
| ENGR 3004 | Biomedical Signals and Data Analysis | 10 |
| ELEC 3002 | Data Communications | 10 |
| ELEC 3004 | Digital Systems 2 | 10 |
| ELEC 2007 | Engineering Visualization | 10 |
| BIOS 1022 | Introduction to Human Biology | 10 |
| ELEC 4003 | Power Quality | 10 |
| ELEC 4004 | Radio and Satellite Communication | 10 |
| ELEC 4005 | Smart Grids and Distributed Generation | 10 |
| ELEC 4006 | Sustainable Energy Systems | 10 |
| ELEC 4007 | Wireless Communications | 10 |

| Mid-year intake | | |
|-----------------------------|---|------------------|
| Course | Title | Credit Points |
| Year 1 | | |
| Spring session | | |
| MATH 1034 | Mathematics for Engineers 1 (Advanced) | 10 |
| ELEC 1009 | Electrical Circuit Fundamentals | 10 |
| ENGR 2023 | Advanced Engineering Physics 2 | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| A | Credit Points | 40 |
| Autumn session MATH 1035 | Mathematics for Engineers 2 (Advanced) | 10 |
| ELEC 1001 | Mathematics for Engineers 2 (Advanced) Digital Systems 1 | 10 |
| ENGR 1047 | Advanced Engineering Physics 1 | 10 |
| ENGR 1045 | Engineering Programming Fundamentals | 10 |
| LIVOIT 1043 | Credit Points | 40 |
| Year 2 | orealt Foliats | 40 |
| Spring session | | |
| ELEC 2014 | Mathematics for Electrical Engineers 1 | 10 |
| ELEC 2009 | Microprocessor Systems | 10 |
| COMP 2008 | Computer Organisation | 10 |
| Select one elective | , , | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| ELEC 2015 | Mathematics for Electrical Engineers 2 | 10 |
| ELEC 2013 | Circuits and Signals | 10 |
| ELEC 2004 | Electronics | 10 |
| select one elective | | 10 |
| of completion of 160 | maintain a minimum GPA of 5.0 at the end Credit Points, and again at the completion will be automatically transferred to the B. s) (3740) program. | |
| | Credit Points | 40 |
| Year 3 | | |
| Spring session | | |
| ELEC 3009 | Power Systems | 10 |
| ELEC 3003 | Digital Signal Processing | 10 |
| ELEC 3011 | Power and Machines | 10 |
| Select one alternate | subject | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| ELEC 3001 | Communication Systems | 10 |
| ELEC 3006 | Electrical Machines 1 | 10 |
| Select one alternate | subject | 10 |
| Select one elective | | 10 |
| Industrial Experience | | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| Was and | Credit Points | 40 |
| Year 4 | | |
| Spring session ENGR 4037 | Advanced Engineering Thesis 1: | 10 |
| LINUN 4037 | Preliminary Investigations | 10 |
| ELEC 4009 | Instrumentation and Measurement | 10 |
| ELEC 4008 | Electrical Drives | 10 |
| Select one alternate | subject | 10 |
| | a. P. a. C. | |

Credit Points

40

| Autumn session | | |
|---------------------|--|-----|
| ENGR 4036 | Advanced Engineering Thesis 2: Detailed Investigations | 10 |
| ELEC 4002 | Power Electronics | 10 |
| Select one elective | | 10 |
| Select one alternat | e subject | 10 |
| | Credit Points | 40 |
| | Total Credit Points | 320 |

Alternate Subjects

O..l.: - -4

| Subject | Title | Credit Points |
|-----------|--|------------------|
| HLTH 2003 | Biomechanics | 10 |
| ENGR 3003 | Biomedical Electronics | 10 |
| ENGR 3004 | Biomedical Signals and Data Analysis | 10 |
| ELEC 3002 | Data Communications | 10 |
| ELEC 3004 | Digital Systems 2 | 10 |
| ELEC 2007 | Engineering Visualization | 10 |
| BIOS 1022 | Introduction to Human Biology | 10 |
| BIOS 1035 | Anatomy and Physiology in Health | 10 |
| ELEC 4003 | Power Quality | 10 |
| ELEC 4004 | Radio and Satellite Communication | 10 |
| ELEC 4005 | Smart Grids and Distributed Generation | 10 |
| ELEC 4006 | Sustainable Energy Systems | 10 |
| ELEC 4007 | Wireless Communications | 10 |

Equivalent Subjects

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

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

3740 Bachelor of Engineering (Honours)

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

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

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

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

Start-year intake

Course Title Credit
Points

Year 1

Autumn session

Select one of the following:

| MATH 1021 | Mathematics for Engineers Preliminary | |
|--|---|--|
| MATH 1016 | Mathematics for Engineers 1 | |
| ENGR 1011 | Engineering Physics | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 10 |
| ELEC 1006 | Engineering Computing | 10 |
| | Credit Points | 40 |
| Spring session | | |
| Select one of the fo | llowing: | 10 |
| MATH 1019 | Mathematics for Engineers 2 | |
| MATH 1016 | Mathematics for Engineers 1 | |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| Select one elective | (Level 1 or higher) | 10 |
| | Credit Points | 40 |
| Year 2 | | |
| Autumn session | | |
| ELEC 2001 | Circuit Theory | 10 |
| ELEC 2004 | Electronics | 10 |
| ELEC 2011 | Signals and Systems | 10 |
| ELEC 1001 | Digital Systems 1 | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ELEC 2009 | Microprocessor Systems | 10 |
| ELEC 2006 | Engineering Electromagnetics | 10 |
| ELEC 3011 | Power and Machines | 10 |
| ENGR 3006 | Control Systems | 10 |
| | Credit Points | 40 |
| | Credit Points | 40 |
| Year 3 | Credit Points | 40 |
| Year 3 Autumn session | Credit Points | 40 |
| | Communication Systems | 10 |
| Autumn session | | |
| Autumn session ELEC 3001 | Communication Systems Electrical Machines 1 | 10 |
| Autumn session ELEC 3001 ELEC 3006 | Communication Systems Electrical Machines 1 | 10 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate | Communication Systems Electrical Machines 1 | 10 10 10 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate | Communication Systems Electrical Machines 1 e subject | 10 10 10 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective | Communication Systems Electrical Machines 1 e subject | 10 10 10 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session | Communication Systems Electrical Machines 1 e subject Credit Points | 10 10 10 10 40 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 | Communication Systems Electrical Machines 1 e subject Credit Points Power Systems | 10 10 10 10 40 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 | Communication Systems Electrical Machines 1 e subject Credit Points Power Systems Digital Signal Processing Electrical Drives | 10 10 10 10 40 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 ELEC 4008 | Communication Systems Electrical Machines 1 e subject Credit Points Power Systems Digital Signal Processing Electrical Drives e subject | 10 10 10 10 40 10 10 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 ELEC 4008 Select one alternate | Communication Systems Electrical Machines 1 e subject Credit Points Power Systems Digital Signal Processing Electrical Drives e subject | 10 10 10 10 40 10 10 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 ELEC 4008 Select one alternate Industrial Experience | Communication Systems Electrical Machines 1 e subject Credit Points Power Systems Digital Signal Processing Electrical Drives e subject | 10 10 10 10 40 10 10 10 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 ELEC 4008 Select one alternate Industrial Experience | Communication Systems Electrical Machines 1 e subject Credit Points Power Systems Digital Signal Processing Electrical Drives e subject ie Industrial Experience (Engineering) | 10 10 10 40 40 10 10 10 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 ELEC 4008 Select one alternate Industrial Experience ENGR 3017 | Communication Systems Electrical Machines 1 e subject Credit Points Power Systems Digital Signal Processing Electrical Drives e subject ie Industrial Experience (Engineering) | 10 10 10 40 40 10 10 10 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 ELEC 4008 Select one alternate Industrial Experience ENGR 3017 | Communication Systems Electrical Machines 1 e subject Credit Points Power Systems Digital Signal Processing Electrical Drives e subject ie Industrial Experience (Engineering) | 10 10 10 40 40 10 10 10 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 ELEC 4008 Select one alternate Industrial Experience ENGR 3017 Year 4 Autumn session | Communication Systems Electrical Machines 1 e subject Credit Points Power Systems Digital Signal Processing Electrical Drives e subject tee Industrial Experience (Engineering) Credit Points | 10 10 10 40 40 10 10 10 10 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 ELEC 4008 Select one alternate Industrial Experience ENGR 3017 Year 4 Autumn session ELEC 4002 | Communication Systems Electrical Machines 1 esubject Credit Points Power Systems Digital Signal Processing Electrical Drives esubject ee Industrial Experience (Engineering) Credit Points Power Electronics Final Year Project 1 (UG Engineering) | 10 10 10 40 10 10 10 10 40 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 ELEC 4008 Select one alternate Industrial Experience ENGR 3017 Year 4 Autumn session ELEC 4002 ENGR 4025 | Communication Systems Electrical Machines 1 esubject Credit Points Power Systems Digital Signal Processing Electrical Drives esubject ee Industrial Experience (Engineering) Credit Points Power Electronics Final Year Project 1 (UG Engineering) | 10 10 10 40 40 10 10 10 40 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 ELEC 4008 Select one alternate Industrial Experience ENGR 3017 Year 4 Autumn session ELEC 4002 ENGR 4025 Select one alternate | Communication Systems Electrical Machines 1 esubject Credit Points Power Systems Digital Signal Processing Electrical Drives esubject ee Industrial Experience (Engineering) Credit Points Power Electronics Final Year Project 1 (UG Engineering) | 10 10 10 40 10 10 10 40 40 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 ELEC 4008 Select one alternate Industrial Experience ENGR 3017 Year 4 Autumn session ELEC 4002 ENGR 4025 Select one alternate | Communication Systems Electrical Machines 1 e subject Credit Points Power Systems Digital Signal Processing Electrical Drives e subject tee Industrial Experience (Engineering) Credit Points Power Electronics Final Year Project 1 (UG Engineering) | 10 10 10 40 10 10 10 10 40 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 ELEC 4008 Select one alternate Industrial Experience ENGR 3017 Year 4 Autumn session ELEC 4002 ENGR 4025 Select one alternate Select one elective | Communication Systems Electrical Machines 1 e subject Credit Points Power Systems Digital Signal Processing Electrical Drives e subject tee Industrial Experience (Engineering) Credit Points Power Electronics Final Year Project 1 (UG Engineering) | 10 10 10 40 40 10 10 10 40 10 10 10 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 ELEC 4008 Select one alternate Industrial Experience ENGR 3017 Year 4 Autumn session ELEC 4002 ENGR 4025 Select one alternate Select one elective Spring session | Communication Systems Electrical Machines 1 e subject Credit Points Power Systems Digital Signal Processing Electrical Drives e subject re Industrial Experience (Engineering) Credit Points Power Electronics Final Year Project 1 (UG Engineering) e subject Credit Points | 10 10 10 40 40 10 10 10 40 10 10 10 40 |
| Autumn session ELEC 3001 ELEC 3006 Select one alternate Select one elective Spring session ELEC 3009 ELEC 3003 ELEC 4008 Select one alternate Industrial Experience ENGR 3017 Year 4 Autumn session ELEC 4002 ENGR 4025 Select one alternate Select one elective Spring session ELEC 4009 | Communication Systems Electrical Machines 1 e subject Credit Points Power Systems Digital Signal Processing Electrical Drives e subject re Industrial Experience (Engineering) Credit Points Power Electronics Final Year Project 1 (UG Engineering) e subject Credit Points Instrumentation and Measurement Final Year Project 2 (UG Engineering) | 10 10 10 40 10 10 10 10 40 10 40 |

| | Credit Points | 40 |
|--|---------------------------------------|-------|
| | Total Credit Points | 320 |
| Mid voor intoke | | |
| Mid-year intake Course | ; Title | Credi |
| Course | THE | Point |
| Year 1 | | |
| Spring session | | - |
| Select one of the fo | - | 10 |
| MATH 1021 | Mathematics for Engineers Preliminary | |
| MATH 1016 | Mathematics for Engineers 1 | _ |
| ENGR 1018 | Fundamentals of Mechanics | 10 |
| ELEC 1003 | Electrical Fundamentals | 10 |
| ENGR 1024 | Introduction to Engineering Practice | 1 |
| Autumn session | Credit Points | 4 |
| Select one of the fo | llowing: | 10 |
| MATH 1019 | Mathematics for Engineers 2 | |
| MATH 1016 | Mathematics for Engineers 1 | |
| ENGR 1011 | Engineering Physics | 1 |
| ELEC 1006 | Engineering Computing | 1 |
| Select one elective | Engineering companing | 1 |
| | st be Level 1 or higher | |
| | | |
| V0 | Credit Points | 4 |
| Year 2 | | |
| Spring session | | |
| ELEC 2009 | Microprocessor Systems | 1 |
| ELEC 2004 | Electronics | 1 |
| ELEC 3011 | Power and Machines | 1 |
| ELEC 3006 | Electrical Machines 1 | 1 |
| A | Credit Points | 4 |
| Autumn session | | _ |
| ELEC 2011 | Signals and Systems | 1 |
| ELEC 1001 | Digital Systems 1 | 1 |
| ELEC 2006 | Engineering Electromagnetics | 1 |
| ELEC 2001 | Circuit Theory | 1 |
| v • | Credit Points | 4 |
| Year 3 | | |
| Spring session | 5 0 1 | |
| ELEC 3009 | Power Systems | 1 |
| ELEC 3003 | Digital Signal Processing | 1 |
| ELEC 4008 | Electrical Drives | 1 |
| Select one alternate | | 1 |
| Autumn cooien | Credit Points | 4 |
| Autumn session ELEC 3001 | Communication Systems | 1 |
| | Communication Systems | 1 |
| ELEC 3006 | Electrical Machines 1 | 1 |
| Select one alternate | e subject | 1 |
| Select one elective Industrial Experience | - | 1 |
| muusmai Expenenc | ·C | |
| ENGR 3017 | Industrial Experience (Engineering) | |

Year 4 Spring session

| opining occordin | | |
|------------------------------|---------------------------------------|-----|
| ELEC 4009 | Instrumentation and Measurement | 10 |
| ENGR 4025 | Final Year Project 1 (UG Engineering) | 10 |
| Select one alternate | Select one alternate subject | |
| Select one elective | | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| ELEC 4002 | Power Electronics | 10 |
| ENGR 4026 | Final Year Project 2 (UG Engineering) | 10 |
| Select one alternate subject | | 10 |
| Select one elective | | 10 |
| | Credit Points | 40 |
| | Total Credit Points | 320 |

3728 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

ELEC 2011

| otart year mear | | |
|---------------------------------|---------------------------------------|------------------|
| Course | Title | Credit Points |
| Year 1 | | |
| Autumn session | | |
| MATH 1016 | Mathematics for Engineers 1 | 10 |
| ENGR 1011 | Engineering Physics | 10 |
| Business Core Subject 1 | | 10 |
| Business Core Subje | ect 2 | 10 |
| | Credit Points | 40 |
| Spring session | | |
| MATH 1019 | Mathematics for Engineers 2 | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Business Core Subje | ect 3 | 10 |
| Business Core Subje | ect 4 | 10 |
| | Credit Points | 40 |
| Year 2 | | |
| Autumn session | | |
| ELEC 1006 | Engineering Computing | 10 |
| Business Professional Subject 1 | | 10 |
| Business Profession | nal 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 | | |
| ELEC 2001 | Circuit Theory | 10 |
| ELEC 2004 | Electronics | 10 |
| | | |

Signals and Systems

10

| ELEC 1001 | Digital Systems 1 | 10 |
|---------------------|---------------------------------------|-----|
| | Credit Points | 40 |
| Spring session | | |
| ELEC 2009 | Microprocessor Systems | 10 |
| ELEC 2006 | Engineering Electromagnetics | 10 |
| ELEC 3011 | Power and Machines | 10 |
| ENGR 3006 | Control Systems | 10 |
| | Credit Points | 40 |
| Year 4 | | |
| Autumn session | | |
| ELEC 3001 | Communication Systems | 10 |
| ELEC 3006 | Electrical Machines 1 | 10 |
| Business Major Su | ubject 4 | 10 |
| Business Major Su | ubject 5 | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ELEC 3009 | Power Systems | 10 |
| ELEC 3003 | Digital Signal Processing | 10 |
| Business Major Su | ubject 6 | 10 |
| Business Major Su | ubject 7 | 10 |
| Industrial Experier | nce | |
| ENGR 3017 | Industrial Experience (Engineering) | 0 |
| | Credit Points | 40 |
| Year 5 | | |
| Autumn session | | |
| ELEC 4002 | Power Electronics | 10 |
| ENGR 4025 | Final Year Project 1 (UG Engineering) | 10 |
| Business Professi | onal Subject 3 | 10 |
| Business Major Su | ıbject 8 | 10 |
| | Credit Points | 40 |
| Spring session | | |
| ELEC 4008 | Electrical Drives | 10 |
| ENGR 4026 | Final Year Project 2 (UG Engineering) | 10 |
| ELEC 4009 | Instrumentation and Measurement | 10 |
| Business Professi | onal 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 | | |
| MATH 1016 | Mathematics for Engineers 1 | 10 |
| PROC 1008 | Introduction to Materials Engineering | 10 |
| Business Core Subj | ect 1 | 10 |
| Business Core Subj | ect 2 | 10 |
| | Credit Points | 40 |
| Autumn session | | |
| MATH 1019 | Mathematics for Engineers 2 | 10 |
| ENGR 1011 | Engineering Physics | 10 |

| oject 4 | 1 |
|--|---|
| Credit Points | 4 |
| | |
| | |
| Electrical Fundamentals | 1 |
| Fundamentals of Mechanics | 1 |
| ubject 1 | 1 |
| ubject 2 | 1 |
| Credit Points | 4 |
| | |
| Engineering Computing | 1 |
| Electronics | 1 |
| ubject 3 | 1 |
| onal Subject 1 | 1 |
| Credit Points | 4 |
| | |
| | |
| Microprocessor Systems | 1 |
| • | 1 |
| Power and Machines | 1 |
| Control Systems | 1 |
| | 4 |
| 5.54.0. | - |
| Digital Systems 1 | 1 |
| | 1 |
| • | 1 |
| - | 1 |
| | 4 |
| 5.54.0. | - |
| | |
| Power Systems | 1 |
| • | 1 |
| 5 5 | 1 |
| - | 1 |
| Credit Points | |
| | 4 |
| Cledit Pollits | 4 |
| | |
| Communication Systems | 1 |
| Communication Systems Electrical Machines 1 | 1 1 |
| Communication Systems Electrical Machines 1 ubject 6 | 1 1 1 |
| Communication Systems Electrical Machines 1 ubject 6 ubject 7 | 1 1 |
| Communication Systems Electrical Machines 1 ubject 6 ubject 7 nce | 1 1 1 1 |
| Communication Systems Electrical Machines 1 ubject 6 ubject 7 nce Industrial Experience (Engineering) | 1 1 1 |
| Communication Systems Electrical Machines 1 ubject 6 ubject 7 nce | 1 1 1 |
| Communication Systems Electrical Machines 1 ubject 6 ubject 7 nce Industrial Experience (Engineering) | 1 1 1 |
| Communication Systems Electrical Machines 1 Ubject 6 Ubject 7 Ince Industrial Experience (Engineering) Credit Points | 1 1 1 1 1 |
| Communication Systems Electrical Machines 1 ubject 6 ubject 7 nce Industrial Experience (Engineering) Credit Points Electrical Drives | 1 1 1 1 1 4 |
| Communication Systems Electrical Machines 1 ubject 6 ubject 7 nce Industrial Experience (Engineering) Credit Points Electrical Drives Final Year Project 1 (UG Engineering) | 1 1 1 1 4 |
| Communication Systems Electrical Machines 1 Ubject 6 Ubject 7 Industrial Experience (Engineering) Credit Points Electrical Drives Final Year Project 1 (UG Engineering) Instrumentation and Measurement | 1 1 1 1 4 |
| Communication Systems Electrical Machines 1 Ubject 6 Ubject 7 Ince Industrial Experience (Engineering) Credit Points Electrical Drives Final Year Project 1 (UG Engineering) Instrumentation and Measurement onal Subject 3 | 1 1 1 1 4 |
| Communication Systems Electrical Machines 1 Ubject 6 Ubject 7 Industrial Experience (Engineering) Credit Points Electrical Drives Final Year Project 1 (UG Engineering) Instrumentation and Measurement | 1 1 1 1 4 1 1 1 |
| Communication Systems Electrical Machines 1 Ubject 6 Ubject 7 Ince Industrial Experience (Engineering) Credit Points Electrical Drives Final Year Project 1 (UG Engineering) Instrumentation and Measurement Incomal Subject 3 Credit Points | 1 1 1 1 4 1 1 1 1 |
| Communication Systems Electrical Machines 1 Ubject 6 Ubject 7 Ince Industrial Experience (Engineering) Credit Points Electrical Drives Final Year Project 1 (UG Engineering) Instrumentation and Measurement onal Subject 3 Credit Points Final Year Project 2 (UG Engineering) | 1 1 1 1 1 1 1 4 |
| Communication Systems Electrical Machines 1 Ubject 6 Ubject 7 Ince Industrial Experience (Engineering) Credit Points Electrical Drives Final Year Project 1 (UG Engineering) Instrumentation and Measurement Incomal Subject 3 Credit Points | 1 |
| | Credit Points Electrical Fundamentals Fundamentals of Mechanics Ibject 1 Ibject 2 Credit Points Engineering Computing Electronics Ibject 3 Ional Subject 1 Credit Points Microprocessor Systems Engineering Electromagnetics |

| Business Major Subject 8 | |
|--------------------------|-----|
| Credit Points | 40 |
| Total Credit Points | 400 |

Alternate Subjects

| Subject | Title | Credit Points |
|-----------|--|------------------|
| ELEC 3004 | Digital Systems 2 | 10 |
| ELEC 4003 | Power Quality | 10 |
| ELEC 4006 | Sustainable Energy Systems | 10 |
| ELEC 4005 | Smart Grids and Distributed Generation | 10 |
| ELEC 4004 | Radio and Satellite Communication | 10 |
| ELEC 4007 | Wireless Communications | 10 |
| HLTH 2003 | Biomechanics | 10 |
| ENGR 3003 | Biomedical Electronics | 10 |
| ENGR 3004 | Biomedical Signals and Data Analysis | 10 |
| BIOS 1022 | Introduction to Human Biology | 10 |
| ELEC 3002 | Data Communications | 10 |
| ELEC 2007 | Engineering Visualization | 10 |

Minors

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

Optional Elective

The following subject is an optional elective unit 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

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

Replaced Subjects

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

ELEC 3008 Instrumentation and Measurement, replaced by ELEC 4009 Instrumentation and Measurement

ELEC 3005 Electrical Drives, replaced with ELEC 4008 Electrical Drives

ELEC 2010 Power and Machines, replaced by ELEC 3011 Power and Machines

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/)