Bachelor of Engineering (Honours) (Electrical)

UNSW TAFE Pathways | Program Code: 3707

Program and Course Terminology

Terminology	Definition
Credit Transfer	Credit transfer is also known as 'advanced standing' or recognition for prior learning (RPL), where students can apply for previous study from another institution to be applied as credit to a student's current degree at UNSW.
Disciplinary Component	Students must complete 168 UOC (29 courses) to satisfy the core requirements of the Electrical stream and complete a minimum of 60 days in Industrial Training to graduate.
Level 1 Core Courses	Students must take 48 UOC (8 courses) in Level 1 Core Courses.
Level 2 Core Courses	Students must take 36 UOC (6 courses) in Level 2 Core Courses.
Level 3 Core Courses	Students must take 42 UOC (7 courses) in Level 3 Core Courses.
Level 4 Core Courses	Students must take 24 UOC (5 courses) in Level 4 Core Courses. The thesis comprises of 3 courses at 4 UOC each.
Professional Electives	Students must take up to 6 UOC (1 course) from the Breadth Elective list and at least 12 UOC (2 courses) from the Discipline Elective list.
General Education	Students must complete 12 UOC (2 courses) of General Education courses in line with UNSW General Education Rules.
Overall Program UOC	Students must complete a 192 UOC (32 courses) across Core, Professional Electives and General Education courses to fulfil program requirements. This is subject to credit transfers as outlined in the study plan.

CRICOS Provider Code 00098G

Students admitted to the Bachelor of Engineering (Honours) (Electrical Engineering) [BE (Hons) (Electrical)] who have completed a qualification under the following TAFE Training Packages are eligible for credit transfer:

- UEE62220 Advanced Diploma of Electrical Engineering
- UEE50420 Diploma of Electrical Engineering
- UEE60220 Advanced Diploma of Electronics and Communications Engineering
- UEE50520 Diploma of Electronics and Communications Engineering

Credit transfer of 30 UOC (or more*) towards the BE (Hons) (Electrical) will be given for the following courses:

1. DESN1000 Engineering Design and Innovation (6 UOC)
2. ELEC1111 Electrical Circuit Fundamentals (6 UOC)
3. Two Free Elective courses (12 UOC)
4. One General Education course (6 UOC)

*Additional credit transfer may be assessed following admission on a case-by-case basis for students with an Advanced Diploma qualification. Once credit has been applied, students will note that some study terms will present a lighter load of courses due to the limited offering of most courses in the BE (Hons) (Electrical).

Assumed Knowledge: Extension 1 Mathematics and HSC Physics

The BE (Hons) (Electrical) specifies assumed knowledge of HSC Mathematics Extension 1 and HSC Physics, to succeed with the mathematics and physics requirements of the degree.

Mathematics

A minimum expected background in mathematics equivalent to HSC Mathematics Extension 1 is needed to successfully undertake Mathematics 1A, a compulsory first year course at UNSW. For this, HSC Mathematics Extension 1 knowledge can be demonstrated (or undertaken) through the following options:

Option 1*: HSC Extension 1 (demonstrated in UAC application)

Option 2*: MATH1011 (Fundamental of Mathematics) (undertaken on UNSW enrolment and RPL reduced accordingly)**

Option 3*: UNSW Maths Bridging Course (undertaken on UNSW enrolment and not opting to undertake Maths1011)

***** *All options assume pre-existing knowledge of HSC Advanced Mathematics, which can be obtained through HSC Advanced Mathematics, or TAFE Essential Mathematics for Higher Education (TAFE Essentials). There is no direct equivalent offered at UNSW.*

***MATH1011 is equivalent to HSC Extension 1 mathematics and runs over a term. It has a restricted offering, and the enrolments structure/ permissions need to be worked out in consultation with the School of Maths and Stats for TAFE pathway students wishing to pursue BE (Hons) (Electrical).*

HSC Physics

A minimum expected background in physics equivalent to HSC Physics is needed to successfully undertake Physics 1A, a compulsory first year course. HSC Physics knowledge can be demonstrated (or undertaken) through the following options:

Option 1: HSC Physics (demonstrated in UAC application)

Option 2: PHYS1111 (Fundamental of Physics) (undertaken on UNSW enrolment and RPL reduced accordingly)

Option 3: UNSW Physics Bridging Course (undertaken on UNSW enrolment and not opting to undertake PHYS1111)

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Sample Study Plan

Eligible Credit Transfer: 30 UOC (or more)*

Please note this is a sample study plan based on Term 1 commencement to be used as a guide only. Courses are subject to term course offerings, refer to the Handbook and Class Timetable to adjust study plan in line with course availability. It is recommended that students seek enrolment progression advice from their school prior to selecting subjects.

First Year		
Term 1	Term 2	Term 3
MATH1131 Maths 1A *OR* **1141** Higher Maths 1A	**MATH1231** Maths 1B *OR* **1241** Higher Maths 1B	**PHYS1231** Higher Physics 1B
PHYS1131 Higher Physics 1A	**COMP1511** Programming Fundamentals	**COMP1521** Computer Systems Fundamentals
ELEC2141 Digital Circuit Design		**MATH2069** Mathematics 2A

Second Year		
Term 1	Term 2	Term 3
ELEC2134 Circuits and Signals	**DESN2000** Engineering Design & Professional Practice	**ELEC3104** Digital Signal Processing
TELE3113 Analogue & Digital Communications	**ELEC2133** Analogue Electronics	**Breadth Elective**
ELEC3115 Electromagnetic Engineering	**MATH2099** Mathematics 2B	

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Third Year		
Term 1	Term 2	Term 3
ELEC3106 Electronics	**ELEC3117** Electrical Engineering Design	**Industrial Training**
Discipline Elective	**ELEC3105** Electrical Energy	
General Education	**ELEC3114** Control Systems	

Fourth Year		
Term 1	Term 2	Term 3
ELEC4951 Research Thesis A (4 UOC)	**ELEC4152** Research Thesis B (4 UOC)	**ELEC4953** Research Thesis C (4 UOC)
ELEC4122 Strategic Leaderships and Ethics	**Discipline Elective**	**ELEC4123** Electrical Design Proficiency

* Additional credit transfer may be assessed following admission on a case-by-case basis for Advanced Diploma qualifications. Once credit has been applied, students will note that some study terms will present a lighter load of courses due to the limited offering of most courses in the BE (Hons) (Electrical).