Bachelor of Engineering (Honours) (Renewable Energy)

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 Renewable Energy 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 42 UOC (7 courses) in Level 2 Core Courses.
Level 3 Core Courses	Students must take 24 UOC (4 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.
Strand Electives	Students must take 18 UOC (3 courses) from the Discipline (Depth) Elective list.
Professional Electives	Students must take up to 12 UOC (2 courses) from any Level 3 or above SOLAxxxx courses. With permission from the Program Authority, Level 3 or above courses offered by other Engineering schools may be taken.
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 192 UOC (32 courses) across Core, Strand and Professional Electives, and General Education courses to fulfil program requirements. This is subject to credit transfers as outlined in the study plan.

Students admitted to the Bachelor of Engineering (Honours) (Renewable Energy) [BE (Hons) (RE)] who have completed one of the following qualifications under the Electrotechnology TAFE Training Package 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
- HE20552V01 Diploma of Renewable Energy Engineering

Students who have completed an **Advanced Diploma** or **Diploma of Electrical Engineering,** or **Advanced Diploma** or **Diploma of Electronics and Communications Engineering** will be awarded credit transfer of 30 UOC (or more*) towards the BE (Hons) (RE). This credit will be for:

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)

Students who have completed a **Diploma of Renewable Energy Engineering** (AQF Level 5) will be awarded credit transfer of up to 48 UOC* towards the BE (Hons) (RE). This credit will be for:

1. DESN1000 Engineering Design and Innovation (6 UOC)
2. ELEC1111 Electrical Circuit Fundamentals (6 UOC)
3. SOLA1070 Sustainable Energy (6 UOC)
4. ENGG1811 Computing for Engineers (6 UOC)
5. Two Free Elective courses (12 UOC)
6. Two General Education courses (12 UOC) – **students selecting the Humanitarian Engineering strand in the BE (Hons) (RE) will receive credit for only one General Education course (6 UOC) due to the requirement to complete ARTS2755.*

*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) (RE).

Assumed Knowledge: Extension 1 Mathematics and HSC Physics

The BE (Hons) (RE) 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) (Renewable Energy).*

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 – Advanced Diploma *or* Diploma of Electrical Engineering

Advanced Diploma *or* Diploma of Electronics and Communications Engineering

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.

	Year 1			Year 2			Year 3			Year 4	
	Term 1	**Term 2**	**Term 3**	**Term 1**	**Term 2**	**Term 3**	**Term 1**	**Term 2**	**Term 3**	**Term 1**	**Term 2**
Low Energy Building Strand	PHYS1121	ENGG1811/ COMP1911/ COMP1511	PHYS1221	SOLA2060	SOLA2051	ELEC2911	SOLA5053	SOLA4012	SOLA4951	SOLA4952	SOLA4953
	MATH1131	MATH1231	MATH2018	MMAN2700	MECH3610	DESN2000	MATH2089	SOLA3010	Elective	ELEC4122	
	Gen Ed	SOLA1070		SOLA2540		ENGG2500	SOLA5050	SOLA5057		Elective	
Humanitarian Engineering Strand	PHYS1121	ENGG1811/ COMP1911/ COMP1511	PHYS1221	SOLA2060	SOLA2051	ELEC2911	SOLA5053	SOLA4012	SOLA4951	SOLA4952	SOLA4953
	MATH1131	MATH1231	MATH2018	MMAN2700	ENGG3001	DESN2000	MATH2089	SOLA5057	SOLA5056	ELEC4122	
	Gen Ed	SOLA1070		SOLA2540		ENGG4102	SOLA5050		Elective	Elective	
RE Systems Strand	PHYS1121	ENGG1811/ COMP1911/ COMP1511	PHYS1221	SOLA2060	SOLA2051	ELEC2911	SOLA5053	SOLA4012	SOLA4951	SOLA4952	SOLA4953
	MATH1131	MATH1231	MATH2069	ELEC2134	MATH2089	DESN2000	MMAN2700	SOLA5057	Elective	SOLA5050	
	Gen Ed	SOLA1070		SOLA2540		Elective	ELEC3115	ELEC3105		ELEC4122	

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Sample Study Plan – Diploma of Renewable Energy Engineering

Eligible Credit Transfer: Up to 48 UOC

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	Year 1			Year 2			Year 3			Year 4
	Term 1	Term 2	Term 3	Term 1	Term 2	Term 3	Term 1	Term 2	Term 3	Term 1
Low Energy Building Strand	PHYS1121	PHYS1221	SOLA2540	SOLA2060	SOLA2051	ELEC2911	SOLA5053	SOLA4951	SOLA4952	SOLA4953
	MATH1131	MATH1231	ENGG2500	MATH2089	MECH3610	DESN2000	SOLA5050	SOLA4012	Elective	
	MMAN2700	MATH2018			SOLA3010		ELEC4122	SOLA5057		
Humanitarian Engineering Strand	PHYS1121	PHYS1221	SOLA2540	SOLA2060	SOLA2051	ELEC2911	SOLA5053	SOLA4012	SOLA4952	SOLA4953
	MATH1131	MATH1231	MATH2089	MMAN2700	ENGG3001	DESN2000	SOLA5050	SOLA4951	SOLA5056	
	ARTS2755	MATH2018		Elective		ENGG4102	ELEC4122	SOLA5057		
RE Systems Strand	PHYS1121	PHYS1221	SOLA2540	SOLA2060	SOLA2051	ELEC2911	ELEC4122	SOLA4951	SOLA4952	SOLA4953
	MATH1131	MATH1231	MATH2089	ELEC2134	SOLA5057	DESN2000	ELEC3115	ELEC3105	Elective	
	MMAN2700	MATH2018		SOLA5053			SOLA5050	SOLA4012		