



UNSW Engineering

# Bachelor of Engineering (Honours) (Renewable Energy Engineering)

## What do renewable energy engineers do?

Renewable energy engineers explore the best ways to implement a range of renewable energy technologies, including photovoltaics, wind, biomass and solar thermal systems. Renewable energy engineers apply a systems level approach to the design and analysis of Renewable Energy generation. Renewable energy engineers also focus on broader approaches to sustainability, including energy efficiency for buildings and appliances, as well as policy options to accelerate the renewable transition worldwide.

## What will your study involve?

This degree allows you to study a range of renewable energy technologies and their uses. These include electricity generation from photovoltaics, wind turbines, as well as the important areas of solar architecture and the design of energy efficient buildings and appliances. Renewable energy engineering is a cross-disciplinary area

of engineering meaning, renewable energy engineers require a broad engineering backgrounds and the ability to work closely with other engineering disciplines. From the second year of this degree students can select 18 units of credit in one of three areas to develop the required depth of their education. These courses are available in Humanitarian Engineering, Low Energy Systems and Renewable Energy Systems.

## UNSW Photovoltaic and Renewable Energy Engineering

- We've been researching Renewable Energy since 1975 with many world-first discoveries, including the commercially dominant PERC solar cell
- We're internationally recognised for research in the area of photovoltaics. Our renewable energy engineering interests include wind energy, biomass, solar thermal, energy efficiency and policy.
- Our academics, researchers, staff and students are based in the Tyree Energy Technologies Building, a \$123.5 million, 6-Star Green Star rated building where research, education and industry collaborate.

## Program details

**Lowest Selection Rank (2022):** 90

**Duration:** Four-year embedded honours degree

**Study areas:** Photovoltaics, Wind Power, Biomass, Energy efficient buildings and appliances, Geothermal Systems, Renewable Energy, Solar Architecture, Solar Thermal Systems, Renewable Energy Policy.

**Assumed knowledge:** HSC level Mathematics Extension 1, Physics

**Alternative Entry:** UNSW offers the Faculty of Engineering Admission Scheme (FEAS) which is a pathway for students interested in studying undergraduate engineering to

support their academic results, find out more at [unsw.to/feas](https://unsw.to/feas)

## Accreditation

Your Bachelor of Engineering (Honours) degree is recognised globally, is accredited with Engineers Australia, and is also acknowledged by the Washington Accord, which lets you work in over 20 countries across the globe upon graduation.

## Career options

Renewable energy is growing in popularity as global awareness of energy sustainability improves. Graduates can work in a wide range

of roles designing, installing and operating renewable energy systems. Positions are available in manufacturing, research organisations, system design and integration companies, energy utilities and consultancies.

## Student Testimonials

"I wanted to contribute to a field that was constantly being improved and reinvented and make a positive contribution to the wellbeing of people at the same time. I'd love to start my own business designing off-the-grid, zero net energy homes. Yet this degree is so diverse that different opportunities always arise."

**Jack Blackwell, Renewable Energy Engineering (Honours)**



### Example study plan

	TERM 1			TERM 2			TERM 3		
YEAR 1	Introduction to Engineering Design & Innovation	Computing for Engineers	Mathematics 1A	Sustainable Energy	Physics 1A	Mathematics 1B	Electrical Circuit Fundamentals	Physics 1B	
YEAR 2	Engineering Mathematics 2D	Thermodynamics	Elective	General Education	Project in Photovoltaic & Renewable Energy		Applied Photovoltaic	Engineering Design and Professional Practice	Numerical Methods & Statistics
YEAR 3	General Education	Renewable Energy Policy	Wind Energy Converters	Elective	Elective	Elective	Power Engineering for Renewable Energy	Elective	
YEAR 4	Strategic Leadership & Ethics	Elective	Thesis A	Photovoltaic Systems Design	Energy Efficiency	Thesis B	Elective	Thesis C	Elective

You'll be required to complete 60 days of Industrial Training throughout your degree.

This is a sample degree outline only and may be subject to change. Please refer to the UNSW Handbook for further information and relevant course codes.