SCIE90014 Renewable Energy

Credit Points:	12.5
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2015, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 48 hours Total Time Commitment: 170 hours
Prerequisites:	Admission to a Masters level program and ENGR90029 Analysing Energy Systems or equivalent.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry. It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability
Coordinator:	Dr Roger Dargaville
Contact:	**rogerd@unimelb.edu.au (mailto:rogerd@unimelb.edu.au)**
Subject Overview:	This subject examines the science and technology of a broad range of renewable energy technologies including - # Overview of the fundamental physics of motion involved in energy in wind, water and waves # Overview of the fundamental physics of solar radiation # Technical details of wind and tidal turbines, hydro and wave power systems # Technical details of photovoltaic cells and concentrating solar power systems # Overview of the chemistry and technologies for biomass for heat and electricity and liquid biofuels # Systems for integrating renewables and managing variability such as storage and demand-side management.
Learning Outcomes:	Upon completion of the subject the student will be able to - # Accurately describe the technical details of a broad variety of renewable energy technologies # Describe the renewable energy resources in Australia and internationally # Discuss the relative merits of the different technologies in terms of cost, variability and technical constraints
Assessment:	Write-ups of practical assignments (5 over the semester at 500 words each) (50%) and a 2 hour end of semester exam (50%)
Prescribed Texts:	None

Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	# Ability to communicate effectively on the technical topics to both a technically trained audience and to the general public # Understanding of the broad implications of technological change in the 21st century
Related Course(s):	Master of Energy Systems
Related Majors/Minors/ Specialisations:	Energy Studies Energy Studies