ELEC 4006 SUSTAINABLE ENERGY SYSTEMS

Credit Points 10

Legacy Code 300998

Coordinator Ragbir Bhathal (https://directory.westernsydney.edu.au/search/name/Ragbir Bhathal/)

Description This unit prepares engineering students to work in the area of renewable energy systems and to be knowledgeable and be in a position to appraise environmental, social, legal, economic and political issues concerned with renewable energy systems.

School Eng, Design & Built Env

Discipline Electrical And Electronic Engineering And Technology

Student Contribution Band HECS Band 2 10cp

Check your HECS Band contribution amount via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 4 subject

Assumed Knowledge

Basic understanding of the principles and engineering applications of physics in energy systems.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Explain the technical aspects of renewable energy systems
2. Critically examine and assess the environmental issues associated with renewable energy systems
3. Discuss and critically evaluate the economics of the renewable energy systems
4. Critically assess the social, legal and political issues as they relate to renewable energy systems

Subject Content

1. Introduction and principles of renewable energy
2. Heat transfer/solar radiation
3. Solar photovoltaics
4. Wind energy
5. Biofuels
6. Hydro-power
7. Wave energy and tidal power
8. Geothermal energy
9. Nuclear energy
10. Environmental impact of renewable energies
11. Economic issues
12. Political, social and legal issues

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Item	Length	Percent	Threshold	Individual/ Group Task
Technical Report 1	3,000 words	60	N	Individual
Technical Report 2	1,500 words + Power point presentation 15 minutes	40	N	Individual

Prescribed Texts

- Boyle, G & Open University (eds) 2012, Renewable energy : power for a sustainable future, 3rd edn, Oxford University Press, Oxford.

Teaching Periods

Spring

Penrith (Kingswood)

Day

Subject Contact Ragbir Bhathal (https://directory.westernsydney.edu.au/search/name/Ragbir Bhathal/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=ELEC4006_22-SPR_KW_D#subjects)