Prescription

This course introduces principles of economics, and how they relate to energy systems, specifically reflecting on the energy-economic nexus. It explores practical techniques to analyse the micro- and macro-economic implications of transitions in the energy system along with relevant business and financial analysis techniques. It presents an overview of the Resource Management Act and related aspects for engineering projects, such as Environmental Impact Assessments.

Course learning objectives

Students who pass this course should be able to:

1. Explain the economic principles of the energy-economic nexus
2. Analyse the macro-economic implications of renewable energy systems
3. Analyse the micro-economic implications of renewable energy systems
4. Analyse the finances and business case of renewable energy projects
5. Describe the importance of the Resource Management Act to renewable energy systems

Course content

In 2021, it will be possible to take this course remotely, and distance-based versions of the lectures, tutorials, labs, and all other material will be available. However, the remote option will only be available for students with a good justification (for example, enrolling from overseas). Students who can be in Wellington must participate in the face-to-face tutorials and labs to develop the critical practical modelling knowledge and skills for the course.

Students taking this course remotely must have access to a computer with camera and microphone and a reliable high speed internet connection that will support real-time video plus audio connections and screen sharing. Students must be able to use Zoom; other communication applications may also be used. A mobile phone connection only is not considered sufficient.   The comuputer must be adequate to support the programming required by the course: almost any modern windows, macintosh, or unix laptop or desktop computer will be sufficient, but an Android or IOS tablet will not.

If the assessment of the course includes tests, the tests will generally be run in-person on the Kelburn campus. There will be a remote option for students who cannot attend in-person, but the remote option imposes extra costs on the School and will be limited to students with a strong justification (for example, being enrolled from overseas). The remote test option will use the ProctorU system for online supervision of the tests. ProctorU requires installation of monitoring software on your computer which also uses your camera and microphone, and monitors your test-taking in real-time. Students who will need to use the remote test option must contact the course coordinator in the first two weeks to get permission and make arrangements.

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The course consists of three components. First, the principles of energy economics are reviewed, and basic modelling techniques are introduced to undertake investigations into how energy transitions are measured and (potentially) stimulated, at a macro- and micro-level. Second, the principles and techniques of planning and managing the finances of renewable energy projects are introduced, with

practical tools that are used in practice. Lastly, the implications of the Resource Management Act for renewable energy projects are discussed.

Withdrawal from Course

Withdrawal dates and process:
https://www.wgtn.ac.nz/students/study/course-additions-withdrawals

Lecturers

Jim Hinkley (Coordinator)

jim.hinkley@vuw.ac.nz   04 4635515

227 Alan MacDiarmid Building, Kelburn

Alan Brent

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413 Alan MacDiarmid Building, Kelburn

Teaching Format

There are weekly contact and online lectures, tutorials, and laboratory sessions supported by online materials and discussions. The practical work in the labs involves software modelling to analyse the economics of the energy sector, and the finances of renewable energy projects.

Student feedback

Student feedback on University courses may be found at:
 www.cad.vuw.ac.nz/feedback/feedback_display.php

Dates (trimester, teaching & break dates)

- Teaching: 22 February 2021 - 28 May 2021
- Break: 05 April 2021 - 18 April 2021
- Study period: 31 May 2021 - 03 June 2021
- Exam period: 04 June 2021 - 19 June 2021

Class Times and Room Numbers

22 February 2021 - 04 April 2021
- **Tuesday** 10:00 - 10:50 – 407, Alan MacDiarmid Building, Kelburn
- **Thursday** 10:00 - 10:50 – 407, Alan MacDiarmid Building, Kelburn

19 April 2021 - 30 May 2021
- **Tuesday** 10:00 - 10:50 – 407, Alan MacDiarmid Building, Kelburn
- **Thursday** 10:00 - 10:50 – 407, Alan MacDiarmid Building, Kelburn

Other Classes

Tutorials and laboratory sessions will be scheduled in AM407.

Set Texts and Recommended Readings

Required

Compulosry reading material is provided via Blackboard.

Mandatory Course Requirements

In addition to achieving an overall pass mark of at least 50%, students must:

- Achieve at least 40% on average for the two class/online tests
- Achieve at least 40% on average for the two individual assignments

If you believe that exceptional circumstances may prevent you from meeting the mandatory course requirements, contact the Course Coordinator for advice as soon as possible.

Assessment

The assessment comprises of two class/online tests, and two modelling projects/assignments.

Assessment Item	Due Date or Test Date	CLO(s)	Percentage
Test 1		CLO: 1,2,3	25%
Test 2		CLO: 4,5	25%
Assignment 1		CLO: 2,3	25%
Assignment 2		CLO: 4	25%

Penalties

Late assessment will be penalised at the rate of 10% for every working day the assessment is late. The lecturer may refuse to mark work that has been handed in over a week late, and may also refuse if the assessment has been marked and returned to the class. In such instances, a zero grade for that assessment shall result.

Extensions

Individual extensions will only be granted in exceptional personal circumstances, and should be negotiated with the course coordinator before the deadline whenever possible. Documentation (eg, medical certificate) may be required.

Submission & Return

All the assessment items are submitted on Blackboard, and feedback will be provided electronically and discussed in class as appropriate.

Workload

Although the workload varies from week to week, students should expect to spend around 10 to 12 hours per week on the course, to give a total of 150 hours study time. A plausible approximate breakdown for these hours would be: lectures (2 hours); tutorials (1 hour); laboratories (2 hours); reading, review and online discussions (3 hours); and modelling and written assignments (3 hours).

Teaching Plan

A detailed teaching plan is provided on commencement of the course via Blackboard.

Communication of Additional Information

Any additional information regarding this course will be posted on Blackboard.

Links to General Course Information

- Academic Integrity and Plagiarism: https://www.wgtn.ac.nz/students/study/exams/integrity-plagiarism
- Academic Progress: https://www.wgtn.ac.nz/students/study/progress/academic-progess (including restrictions and non-engagement)
- Dates and deadlines: https://www.wgtn.ac.nz/students/study/dates
- Grades: https://www.wgtn.ac.nz/students/study/progress/grades
- Special passes: Refer to the Assessment Handbook, at https://www.wgtn.ac.nz/documents/policy/staff-policy/assessment-handbook.pdf
- Statutes and policies, e.g. Student Conduct Statute: https://www.wgtn.ac.nz/about/governance/strategy
- Student support: https://www.wgtn.ac.nz/students/support
- Students with disabilities: https://www.wgtn.ac.nz/st_services/disability/
- Student Charter: https://www.wgtn.ac.nz/learning-teaching/learning-partnerships/student-charter
- Terms and Conditions: https://www.wgtn.ac.nz/study/apply-enrol/terms-conditions/student-contract
- Turnitin: http://www.cad.vuw.ac.nz/wiki/index.php/Turnitin
- University structure: https://www.wgtn.ac.nz/about/governance/structure
- VUWSA: http://www.vuwsa.org.nz

Offering CRN: 31128

Points: 15
Prerequisites: RESE 211, 212; one of (STAT 193, QUAN 102, ECEN 321)
Duration: 22 February 2021 - 20 June 2021
Starts: Trimester 1
Campus: Kelburn