UNSW Course Outline

CVEN9701 Engineering Economics and Financial Management - 2024

Published on the 28 Jan 2024

General Course Information

Course Code : CVEN9701
Year : 2024
Term : Term 1
Teaching Period : T1
Is a multi-term course? : No
Faculty : Faculty of Engineering
Academic Unit : School of Civil and Environmental Engineering
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : Kensington
Campus : Sydney
Study Level : Postgraduate
Units of Credit : 6

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

This course covers the financial aspects of projects. The first part covers Engineering Economics, which helps you decide whether the benefits of a project outweigh the costs. The second part of the course covers the financial management of projects, which will make you a

better project manager. The course also provides an introduction to how economics affects projects.

Topics covered include: project initiation and development, feasibility studies, planning; economics, review of practical decision making problems and relevant techniques, benefit/cost analysis, methods of economic appraisal; consideration of inflation and taxation in investment decisions; depreciation; management decision processes, decision theory, utility; life-cycle costing, value management; models and techniques to assist the manager, forecasting; optimisation; applications; multiple objective planning; project delivery systems; financial planning, accounting.

Course Aims

The aim of this course is to introduce you to the money side of projects. It will teach you how to determine if a project is financially viable, how to manage the finances of a project, and some insights from the broader field of economics that will help you to strategically select and execute your projects..

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Appraise a project through cost benefit analysis and account for uncertainties
CLO2 : Prepare financial accounts for simple case studies
CLO3 : Analyse the performance of an engineering project
CLO4 : Systematically examine a project for ways in which it can be improved

Course Learning Outcomes	Assessment Item
CLO1 : Appraise a project through cost benefit analysis and account for uncertainties	• Online Assessments • Final Exam
CLO2 : Prepare financial accounts for simple case studies	• Online Assessments • Final Exam
CLO3 : Analyse the performance of an engineering project	• Online Assessments • Final Exam
CLO4 : Systematically examine a project for ways in which it can be improved	• Online Assessments • Final Exam

Learning and Teaching Technologies

Moodle - Learning Management System | Echo 360

Other Professional Outcomes

https://www.unsw.edu.au/engineering/student-life/student-resources/program-design

Additional Course Information

The lecture notes are fairly simple and are primarily provided so that students have an outline to annotate during the lecture. As such they do not contain the stories and anecdotes that I use to illustrate the theory and the numerical examples that I work through on the screen. Thus if you miss the live lecture then you are expected to watch the lecture recording.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Online Assessments Assessment Format: Individual	40%	Start Date: Released during the Wednesday lectures of the weeks listed in the schedule Due Date: 1pm on the Wednesdays of the weeks listed in the schedule
Final Exam Assessment Format: Individual	60%	Start Date: Formal Exam Period

Assessment Details

Online Assessments

Assessment Overview

A large portion of what you will learn in this course regards how to apply quantitative techniques to real projects. In order to assess your ability to understand these quantitative techniques and apply them to projects a series of assignments will be administered as online quizzes. They will enable you to get a better understanding of the detail involved in some of the tools used in engineering economics and financial management.

Course Learning Outcomes

- CLO1 : Appraise a project through cost benefit analysis and account for uncertainties
- CLO2 : Prepare financial accounts for simple case studies
- CLO3 : Analyse the performance of an engineering project
- CLO4 : Systematically examine a project for ways in which it can be improved

Detailed Assessment Description

Accessing the Online Quizzes

The quizzes will be administered through Moodle.

The web based interface for the quizzes will be demonstrated during the second lecture of the first week. Where a quiz has a more sophisticated user interface for particular questions a demonstration will be given during the lecture that the quiz is released and the assessment of that question will be explained.

The weighting for each quiz will be proportional to the number of points for the quiz displayed in Moodle. They will not be all the same value.

Detailed feedback for each question will be provided through the same web based interface one week after the quiz is due.

Assessment information

Due Dates and Late Penalties

Generally the quizzes will be due two weeks after the relevant material has been covered in the class. The actual week that each of the quizzes is released and is due can be found in the Course Program. All online quizzes will be due at **1pm on the Wednesday** in the week shown in the Course Program.

There is no time limit other than the due date/time, you can print out the questions one day and type the answers into the computer on another day.

If you need to submit your quiz late then type your answers into the “Late Submissions of Assignments” Moodle Forum. **Do not use attachments** unless a question asks for a picture. You will be penalised 5% per day late or part thereof based on the time of posting. No submissions will be accepted more than 5 days (120 hours) late.

Assignment submission Turnitin type

This is not a Turnitin assignment

Final Exam

Assessment Overview

In addition to the quantitative techniques mentioned above we will be covering a great deal of

theory. Your ability to understand and apply this theory, as well as the quantitative techniques, will be assessed in an exam, which will take 2 hours during the formal exam period. Any topic covered in class can be covered in the exam.

Course Learning Outcomes

- CLO1 : Appraise a project through cost benefit analysis and account for uncertainties
- CLO2 : Prepare financial accounts for simple case studies
- CLO3 : Analyse the performance of an engineering project
- CLO4 : Systematically examine a project for ways in which it can be improved

Detailed Assessment Description

The exam will run on campus and be invigilated.

Assessment Length

2 hours + 10 minutes reading time

Submission notes

The exam will be administered through Inspera

Assessment information

External Exam Policy: The distance class is exclusively available to Postgraduate Domestic students who are onshore and reside more than 100km away from UNSW Kensington Campus. These students may apply to take the exam remotely. Please refer to The External Exam Policy: External Exam Policy | CVEN Intranet (unsw.edu.au) for your eligibility. Applications must be submitted by week 4 and late submissions will not be accepted.

Assignment submission Turnitin type

This is not a Turnitin assignment

Hurdle rules

A mark of at least 40% in the final examination is required before the class work is included in the final mark.

General Assessment Information

Final Grade:

The final grade for this course will normally be based on the sum of the scores from each of the assessment tasks. However, not all topics will be assessed by the online quizzes, while all topics may potentially be assessed in the exam. Therefore to ensure that you have met the learning outcomes you must achieve a mark of at least 40% in the exam in order for the assignment

marks to be included. The Final Examination is worth 60% of the Final Mark if the assignment marks are included and 100% if the assignment marks are not included. The assignments are worth 40% of the Final Mark if included.

For students who score over 40% in the final exam

1. Online quizzes 40%

2. Exam 60%

For students who score under 40% in the final exam

1. Exam 100%

Note: The Coordinator or Lecturer reserves the right to adjust the final scores by scaling if agreed to by the Head of School.

Grading Basis

Standard

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 12 February - 18 February	Lecture	Economic Evaluation: The Time Value of Money Project Appraisal Criteria Web Quiz 1 Released
Week 2 : 19 February - 25 February	Lecture	Project Appraisal Issues
Week 3 : 26 February - 3 March	Lecture	Cost Estimation Web Quiz 1 Due
Week 4 : 4 March - 10 March	Lecture	Risk and Uncertainty Web Quiz 2 Released
Week 5 : 11 March - 17 March	Lecture	Monte Carlo Simulation Real Options
Week 6 : 18 March - 24 March	Other	No classes Web Quiz 2 Due Web Quiz 3 Released
Week 7 : 25 March - 31 March	Lecture	Introduction to Accounting
Week 8 : 1 April - 7 April	Lecture	Cost Planning and Reporting Microeconomics Web Quiz 3 Due Web Quiz 4 Released
Week 9 : 8 April - 14 April	Lecture	Microeconomics
Week 10 : 15 April - 21 April	Lecture	Macroeconomics Value Management Web Quiz 4 Due

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

Course Resources

Prescribed Resources

Textbook

There is no prescribed textbook for this course

Several of the topics covered in this course are detailed in many textbooks that you can find in the library.

Moodle

This subject has a Moodle site. The address is http://moodle.telt.unsw.edu.au.

Interactive lessons will be available on Moodle that you should complete before the Lecture.

The site will contain additional resources for you. The assignments will be given in the form of online quizzes. Discussion forums have been set up in Moodle. Questions about the course, assignments, exams etc are best asked through the discussion forums, so that all students can see the replies.

In addition one of the Moodle discussion groups will be used as a class email list. Any announcements that cannot be made in the lecture will be posted to this group, and will be forwarded to your Unimail address. It is University policy that information sent to your unimail address has been received by you. It is therefore recommended that you check your email regularly for any announcements that might not be made in lectures etc.

Course Evaluation and Development

Please complete the MyExperience student survey at the conclusion of the term.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Steven Davis		208	9385 5052	Contact via Moodle forum	No	Yes

Other Useful Information

Academic Information

I. Special consideration and supplementary assessment

If you have experienced an illness or misadventure beyond your control that will interfere with your assessment performance, you are eligible to apply for Special Consideration prior to, or within 3 working days of, submitting an assessment or sitting an exam.

Please note that UNSW has a Fit to Sit / Submit rule, which means that if you sit an exam or submit a piece of assessment, you are declaring yourself fit enough to do so and cannot later apply for Special Consideration.

For details of applying for Special Consideration and conditions for the award of supplementary assessment, please see the information on UNSW's Special Consideration page.

II. Administrative matters and links

All students are expected to read and be familiar with UNSW guidelines and polices. In particular, students should be familiar with the following:

- Attendance
- UNSW Email Address
- Special Consideration
- Exams
- Approved Calculators
- Academic Honesty and Plagiarism
- Equitable Learning Services

III. Equity and diversity

Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course convener prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equitable Learning Services. Issues to be discussed may include access to materials, signers or note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made.

Note: This course outline sets out the description of classes at the date the Course Outline is

published. The nature of classes may change during the Term after the Course Outline is published. Moodle or your primary learning management system (LMS) should be consulted for the up-to-date class descriptions. If there is any inconsistency in the description of activities between the University timetable and the Course Outline/Moodle/LMS, the description in the Course Outline/ Moodle/LMS applies.

Academic Honesty and Plagarism

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW students have a responsibility to adhere to this principle of academic integrity. Plagiarism undermines academic integrity and is not tolerated at UNSW. *Plagiarism at UNSW is defined as using the words or ideas of others and passing them off as your own.*

Plagiarism is a type of intellectual theft. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement. UNSW has produced a website with a wealth of resources to support students to understand and avoid plagiarism, visit: student.unsw.edu.au/plagiarism. The Learning Centre assists students with understanding academic integrity and how not to plagiarise. They also hold workshops and can help students one-on-one.

You are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and the proper referencing of sources in preparing all assessment tasks.

Repeated plagiarism (even in first year), plagiarism after first year, or serious instances, may also be investigated under the Student Misconduct Procedures. The penalties under the procedures can include a reduction in marks, failing a course or for the most serious matters (like plagiarism in an honours thesis or contract cheating) even suspension from the university. The Student Misconduct Procedures are available here:

www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf

Submission of Assessment Tasks

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of five percent (5%) of the maximum mark possible for that assessment item, per calendar day.

The late penalty is applied per calendar day (including weekends and public holidays) that the assessment is overdue. There is no pro-rata of the late penalty for submissions made part way through a day. This is for all assessments where a penalty applies.

Work submitted after five days (120 hours) will not be accepted and a mark of zero will be awarded for that assessment item.

For some assessment items, a late penalty may not be appropriate. These will be clearly indicated in the course outline, and such assessments will receive a mark of zero if not completed by the specified date. Examples include:

- Weekly online tests or laboratory work worth a small proportion of the subject mark;
- Exams, peer feedback and team evaluation surveys;
- Online quizzes where answers are released to students on completion;
- Professional assessment tasks, where the intention is to create an authentic assessment that has an absolute submission date; and,
- Pass/Fail assessment tasks.

Faculty-specific Information

Engineering Student Support Services – The Nucleus - enrolment, progression checks, clash requests, course issues or program-related queries

Engineering Industrial Training – Industrial training questions

UNSW Study Abroad – study abroad student enquiries (for inbound students)

UNSW Exchange – student exchange enquiries (for inbound students)

UNSW Future Students – potential student enquiries e.g. admissions, fees, programs, credit transfer

Phone

(+61 2) 9385 8500 – Nucleus Student Hub

(+61 2) 9385 7661 – Engineering Industrial Training

(+61 2) 9385 3179 – UNSW Study Abroad and UNSW Exchange (for inbound students)

School-specific Information

Final Examinations

Final Exams in T1 2024 will be held on campus between the 26th April and 9th May, and Supplementary Exams between the 20th - 24th May 2024. You are required to be available on these dates. Please do not to make any personal or travel arrangements during this period.

School Contact Information

For assistance with enrolment, class registration, progression checks and other administrative matters, please see the Nucleus: Student Hub. They are located inside the Library – first right as you enter the main library entrance. You can also contact them via http://unsw.to/webforms or reserve a place in the face-to-face queue using the UniVerse app.

For course administration matters, please contact the Course Coordinator.

Questions about the this course should normally be asked during the scheduled class so that everyone can benefit from the answer and discussion.