ECON 4418 and 8018
Cost Benefit Analysis

Economic analysis provides a powerful tool for analysing public policy from both a positive (i.e. predictive) and normative (i.e. evaluative) perspective and focuses attention on how policies can be improved. Cost benefit analysis is how economists analyse public policy issues, all policy economics represents cost-benefit analysis in some form or other.

Cost benefit analysis is an analytical framework for evaluating government policies and improving decision making. It is used to systematically compare the social costs and benefits of government policies, with the emphasis on valuing them (to the extent possible) in monetary terms.

Cost benefit analysis draws attention to the likely impacts of policies, and helps decision makers to compare the favourable and unfavourable effects of proposed policies in a consistent way and decide whether they should be undertaken.

Cost-benefit analysis can be (and is) used to analyse and strengthen a wide range of government choices, including whether to undertake an infrastructure project, provide a service, pass a regulation, produce a public good, change a social welfare programme or adjust a tax.

This is a graduate course. Graduate and Honours students do the undergraduate course and additional graduate level material: extensions of the undergraduate course topics and additional topics.

Mode of Delivery  On campus.

Prerequisites
To enrol in this course you must have completed the equivalent of, or have concurrent enrolment in ECON8025, and either ECON2015/6015 or ECON8013.

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Office hours for student consultation: TBA on wattle.

Research Interests  Law and Economics, Cost benefit analysis

Relevant administrator  Nicole Millar
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SEMESTER 2
2017

http://programsandcourses.anu.edu.au/course/ECON4418

http://programsandcourses.anu.edu.au/course/ECON8018
COURSE OVERVIEW

Course Description

After an introduction to the use of cost benefit analysis in public policy and politics, I will set out the foundations of cost benefit analysis: how welfare economics is used to measure the costs and benefits of policy changes. The implications of public choice, the economics of the political process, for the role of cost benefit analysis is also studied.

The next topic is how to analyse the efficiency effects of government interventions and the tools of cost benefit analysis. The final topic applies these tools of policy analysis to examine a number of topical public policy issues in detail.

The graduate section of the course examines more advanced welfare economics and then focuses on accounting for risk and uncertainty in policy analysis, with applications to the value of life and the social discount rate in climate change analysis.

Learning Outcomes

Upon successful completion of the requirements for this course, students will be able to:

- determine when a CBA may be performed in a meaningful way;
- perform the CBA as completely as possible under relevant modelling assumptions or approximations;
- identify the elements that may compromise the validity of the CBA such as limitations in modelling assumptions, limitations in data, and political concerns;
- effectively communicate the results of the CBA to the relevant parties.

Assessment Summary

Assessment for this course will consist of two in-class tests (1 hour each) and a final exam.

The in-class tests will be one hour each and will take place in Weeks 5 and 10 during the graduate lecture time (probably Tuesday 2-3). The in-class tests will cover material done in the undergraduate course in the weeks prior to the test and since the last one (e.g. Test 1 covers Weeks 1-4, Test 2 Weeks 5-9). Students will be advised at a later date, in class and on Wattle, of the time of, and material covered in, the in-class tests.

The final exam will be three hours long, plus thirty minutes reading time. It will examine all material in the course, undergraduate and graduate, with one-third of the exam on the graduate material.

One in-class test is worth 10 per cent of the final mark, the other 30 per cent (with the test that counts more being chosen to maximize your mark). No deferred exams will be offered for the in-class tests. The final exam is worth 60 per cent of the total mark.

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Due Date</th>
<th>Date for Return of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In-class test</td>
<td>10 or 30 per cent</td>
<td>Week 5</td>
<td>During semester break.</td>
</tr>
<tr>
<td>2. In-class test</td>
<td>10 or 30 per cent</td>
<td>Week 10</td>
<td>Week 12</td>
</tr>
<tr>
<td>3. Final exam</td>
<td>60 per cent</td>
<td>T.B.A.</td>
<td>Date for Return of Assessment</td>
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</table>
Research-Led Teaching
The lecturer has published a number of papers on cost benefit analysis and others using cost benefit analysis of public policy issues. He has conducted a number of cost benefit studies as a consultant.

Feedback
Staff Feedback
Students can collect their in-class tests after they are marked. Answers to the in-class tests will be presented in tutorials and posted on wattle and class performance discussed.

Student Feedback
ANU is committed to the demonstration of educational excellence and regularly seeks feedback from students. One of the key formal ways students have to provide feedback is through Student Experience of Learning Support (SELS) surveys. The feedback given in these surveys is anonymous and provides the Colleges, University Education Committee and Academic Board with opportunities to recognise excellent teaching, and opportunities for improvement.

For more information on student surveys at ANU and reports on the feedback provided on ANU courses, go to

Policies
ANU has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University’s academic standards, and implement them. You can find the University’s education policies and an explanatory glossary at: http://policies.anu.edu.au/

Students are expected to have read the Academic Misconduct Rules 2014 before the commencement of their course.

Other key policies include:
• Student Assessment (Coursework)
• Student Surveys and Evaluations

Required Resources
The textbook for the course is The Economic Analysis of Public Policy by William Bellinger 2nd Edition (2016), Routledge. It is available in the co-op bookstore.

Although the textbook forms the core of the course, and the first 13 chapters will be included in the course, I will go into deeper in topics than the textbook does, especially in the graduate part of the course. Extra readings will be set from other textbooks and journal articles and copies will be placed on the course Wattle web site.

A detailed outline, reading list and the associated readings for each topic will be placed on the course wattle web site before the start of each topic.

The course handouts and tutorial assignments for the undergraduate section of the course can be found at the Wattle site for ECON2133. The course handouts for the graduate section of the course can be found at the dedicated Wattle site for ECON 4418 and 8018. All students formally enrolled in these courses should have access to both sites and should check them at least once a week.

Recommended Resources

Euston Quah and Raymond Toh *Cost Benefit Analysis Cases and Materials* (Routledge, 2012) provide 15 case studies of cost benefit analysis, mainly for Asian projects such as the Three Gorges Dam.

The *Journal of Cost Benefit Analysis* publishes good cost benefit studies.

**Additional course costs**

No additional course costs

**Examination material or equipment**

No materials permitted. The binding details for the final exam will be given in the University's final exam timetable [http://timetable.anu.edu.au/exams/](http://timetable.anu.edu.au/exams/)

**COURSE SCHEDULE UNDERGRADUATE SECTION**

<table>
<thead>
<tr>
<th>Week/Session</th>
<th>Topic</th>
<th>Bellinger chapter</th>
</tr>
</thead>
</table>
| 1            | 1. INTRODUCTION: COST BENEFIT ANALYSIS AND PUBLIC POLICY  
2. FUNDAMENTALS OF COST BENEFIT ANALYSIS: WELFARE ECONOMICS  
An exchange economy  
Evaluating outcomes: the social welfare function approach | 1. The meaning of policy analysis  
2. A review of markets and rational behaviour (revision)  
3. Ethics for policy analysts |
| 2            | The efficiency criterion | 4. Efficiency and imperfect markets |
| 3            | 3. EFFICIENCY AND MARKETS  
Measuring willingness to pay: valuing benefits in primary markets  
Market success | 4. Efficiency and imperfect markets |
| 4            | Market failure  
The need for cost benefit analysis  
4. EFFICIENCY EFFECTS OF GOVERNMENT INTERVENTIONS  
The efficiency effects of a tax  
Valuing benefits in secondary markets and the theory of the second best | 5. Efficiency and the role of government |
| 5            | IN-CLASS TEST 1  
Shadow pricing  
Non-tax government interventions | 5. Efficiency and the role of government |
| 6            | Internationally traded goods  
Arrow’s impossibility theorem  
Public choice: the economics of the political process | 5. Efficiency and the role of government |
|              | SEMESTER BREAK |
### COURSE SCHEDULE GRADUATE SECTION

Starting in Week 2, one lecture each week will be on the graduate material. The extra lectures cover extensions to the undergraduate course topics and additional topics. The table below gives a rough outline of the course. A detailed outline, reading list and the associated readings for each topic will be placed on the course wattle web site before the start of each topic.

<table>
<thead>
<tr>
<th>Week/Session</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
| 2            | **GENERAL EQUILIBRIUM**  
Edgeworth exchange box: competition and price taking behaviour |
| 3            | Edgeworth exchange box: two fundamental theorems, |
| 4            | General equilibrium with production: Edgeworth factor box, efficiency and utility possibility frontier.  
**CHOICE UNDER UNCERTAINTY:** Expected utility theory |
| 5            | **IN CLASS TEST 1** |
| 6            | Expected utility theory |
|              | **SEMESTER BREAK** |
| 7            | Role of insurance: risk pooling. Asset pricing under uncertainty: cost of risk, discounting and present value |
Asset pricing under uncertainty: Risk spreading, Covariant risk
Consumption based asset pricing model

Consumption based asset pricing model

IN CLASS TEST 2

The social discount rate and climate change analysis

The social discount rate and climate change analysis

EXAMINATION PERIOD

ASSESSMENT REQUIREMENTS

The ANU is using Turnitin to enhance student citation and referencing techniques, and to assess assignment submissions as a component of the University's approach to managing Academic Integrity. For additional information regarding Turnitin please visit the ANU Online website.

Students may choose not to submit assessment items through Turnitin. In this instance you will be required to submit, alongside the assessment item itself, copies of all references included in the assessment item.

Assessment Tasks

Participation
To learn the material, it is necessary, but not sufficient, to attend lectures regularly and do the assigned readings.

Students do best if they attend lectures and tutorials, take careful notes and learn to draw the diagrams, not by flipping over copies of the lecture slides.

A tutorial problem set will be posted each week for the following week. It is expected that students prepare in advance and come ready to answer questions. A crucial component of the course is the ability to analyze a situation using microeconomic tools. Learning-by-doing is the best way to achieve this ability which is fostered by doing the tutorial problems before attending the tutorial. Doing the tutorial problems each week is a key part of the learning process. You can only learn the economic way of thinking by applying your economics to analyse problems. The final exam questions will be tutorial style problems. You will only learn problem solving skills (necessary to pass the exams) through practice, NOT by simply copying down the answers given in tutorials.

The lectures and tutorials will be recorded and the powerpoint slides placed on Wattle.

Asking questions in tutorial is encouraged. Of course I will be available to answer questions about course content immediately after lectures and during my office hours.

Workload
Students taking this course are expected to commit at least 10 hours a week to completing the work, including:

- 2-3 hours a week: lectures
- 1 hour a week: tutorial
- 7 hours a week: reading, research, writing and tutorial preparation

Assessment Task 1: In-class test
Details of task:
A one hour test, with four short answer questions, which will be worth 10% or 30% of your mark. It will be held in week 5 in the graduate lecture time (probably Tuesday 2-3).
Assessment Task 2: In-class examination

Details of task:
A one hour test, with four short answer questions, which will be worth 10% or 30% of your mark. It will be held in week 10 in the graduate lecture time (probably Tuesday 2-3).

The topics examined in each of the in-class tests will be announced in class and on wattle before the examination. They will examine topics from the undergraduate course.

Assessment Task 3: Final examination

Details of task:
The final exam will be 3 hours plus 30 minutes reading time and will examine the whole course. It will be a mixture of short answer questions and longer problems, with some choice between the longer problems. One-third of the exam will be on the graduate material.

Returning assignments
Students can collect their in-class tests from the Departmental Office after we go over the answers in a tutorial.

Scaling
Your final mark for the course will be based on the raw marks allocated for each of your assessment items. However, your final mark may not be the same number as produced by that formula, as marks may be scaled. Any scaling applied will preserve the rank order of raw marks (i.e. if your raw mark exceeds that of another student, then your scaled mark will exceed the scaled mark of that student), and may be either up or down.

Privacy Notice
The ANU has made a number of third party, online, databases available for students to use. Use of each online database is conditional on student end users first agreeing to the database licensor’s terms of service and/or privacy policy. Students should read these carefully.

In some cases student end users will be required to register an account with the database licensor and submit personal information, including their: first name; last name; ANU email address; and other information.

In cases where student end users are asked to submit ‘content’ to a database, such as an assignment or short answers, the database licensor may only use the student’s ‘content’ in accordance with the terms of service – including any (copyright) licence the student grants to the database licensor.

Any personal information or content a student submits may be stored by the licensor, potentially offshore, and will be used to process the database service in accordance with the licensors terms of service and/or privacy policy.

If any student chooses not to agree to the database licensor’s terms of service or privacy policy, the student will not be able to access and use the database. In these circumstances students should contact their lecturer to enquire about alternative arrangements that are available.

SUPPORT FOR STUDENTS
The University offers a number of support services for students. Information on these is available online from http://students.anu.edu.au/studentlife/