



Faculty of Science: Department of Economics

Course Syllabus

Econ3350.03 Social Cost Benefit Analysis

Winter, 2023

Instructor: Ruth Forsdyke, Ruth.Forsdyke@Dal.ca, room C12, Maxwell House, (902) 494-6990

Lectures: Mon., Wed., 13:05 – 14:25, Studley McCain, Room 2021,

Office Hours (Professor):

Real (room C12 Maxwell House) Friday 10:30 am - noon

Virtual Online via Brightspace using Collaborate (Tues. 12 noon - 1 pm)

Teaching Assistant (TA): Boatemaa Afrifa (bt480888@dal.ca), Office Hours (TBA)

Course Delivery: in person, lectures not recorded

Part A: Course Information

Course Description

CREDIT HOURS: 3

Social cost benefit analysis is used to evaluate public projects and private sector regulations. It is similar to the revenue cost accounting used by firms but takes into account external costs and benefits such as environmental damages. This course explains the methodology in the context of case studies after which students apply the method to evaluate a public policy problem.

FORMAT: Lecture,

NOTES: It is strongly recommended for students to have taken one welfare analysis course such as ECON2216.03, ECON3335.03, ECON3345.03, ECON3330.03 or ECON3319.03 prior to registering for the course.

FORMAT: Lecture

PREREQUISITES: ECON 2200.03 (or ECON 2210.03 or ECON 2220.03) with a minimum grade of C

RESTRICTIONS: Registration exclusion = E2

EXCLUSIONS: ECON 4350

Course Objectives/Learning Outcomes

- Explain the overall concept of CBA including the basic steps, and what it is used for.
- Understand theory of net present value (NPV) of the total social surplus and be able to estimate it.
- Explain how the choice of "ethical parameters (tolerance for inequality and utility discount rate) and the growth rate affects the social discount rate and how this, in turn, affects the results of the CBA.
- Learn and improve on Microsoft Excel Skills while doing CBA project and assignments.
- Read so as to be able to critically understand actual CBA studies.
- Critically explain merits but also limitations of CBA including the potential for misuse to approve projects desired by vested interests leading to poor policy advice.
- Develop analytical problem-solving skills by applying microeconomic theory as relates to CBA.

- Develop research and writing skills doing the CBA project, regular assignments and tests.
- Improve communication skills by practicing and preparing a presentation.
- Practice "learning how to learn" and develop true confidence in your ability to learn.
- Improve skills in critical thinking.

"Education is a process of living, and not a preparation for future living." John Dewey
"The human mind is our fundamental resource." John F. Kennedy

Course Materials

Textbook (required): Boardman, A.E., Greenberg, D.H., Weimer, D.L., Vining, A.R. (2018) *Cost- Benefit Analysis: Concepts and Practice*, 5th Ed., Cambridge University Press.

- Dalhousie bookstore (<https://bookstore.dal.ca/Course/campus>)

- **electronic versions** available at <https://www.cambridge.org/highereducation/books/cost-benefit-analysis/484720E57798B7E7A29C7156407CD4A1#overview>

Brightspace Learning Management System:

- Online material for the course is available in Brightspace (BS) under “**content**”, “**discussions**”, “**announcements**” and “**Assessments**”.

Students are responsible for checking “**Announcements**” regularly to be sure not to miss important information.

Announcements, assignments, practice problem sets, practice exam test questions, old exams, assignments, some notes, etc. are posted on Brightspace. The Professor will make mixed use of the whiteboard and slide shows. Slide shows are posted after class and should be thought of as complements (not perfect substitutes) to notes taken in class and textbook readings.

Course Assessment

Component	Weight (% of final grade)	Date
Midterm	(20 %)	(Wed, Feb. 15 th in class)
Final exam	(43 %)	(Scheduled by Registrar)
Assignments	(12%, best 2 out of 3)	(2 before midterm and 1 after)
Group Project	(25%)	Presentation (Mar 20th, 22nd & 27th, Report (Mar. 29 th))

Details on Group Project:

You work in a group to do a social CBA on some socially relevant topic that interests you. The components, grade assignment and due dates are as follows:

- **Email your proposed topic** to both TA and I. Indicate two choices ordered by preference (Wed. Jan. 25th)

- **Proposed outline of approach** including preliminary identification of preliminary benefit-cost categories, preliminary reference list/ plan for dividing up the work / set up group meeting with teaching assistant = 4% (Mon, Feb 27th)

- **Presentation** = 6 % (group grade) (see dates under "Course Assessment" above)

- **Written Report** = 12 % (grade based on both group and individual components/ write your name on sections you were mainly responsible for) (March 29th)

- **Appraisals and Evaluations** of self / other group members / other groups' presentations/ your attendance at other group's presentations = 3 % (March 29th)

Total grade = 25 %

* You are strongly advised to meet with me and **Boatemaa** during regular office hours to get help with your projects.

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

A+ (90-100) B+ (77-79) C+ (65-69) D (50-54)

A (85-89) B (73-76) C (60-64) F (<50)

A- (80-84) B- (70-72) C- (55-59)

Other Details on Course Work and Assessment

Lectures and Questions:

You are encouraged to ask questions during class, or/ and on the discussion board, and during office hours. If your question is likely to be of general interest to the class, we prefer that you ask during class or on the Brightspace Discussion board. However, you may **email** your questions to the TAs or professor particularly if the question is of a private nature or is not likely to be of general interest to the class.

Midterm and Final Exam: The midterm is held in class and the final exam is scheduled by the Registrar and both are on campus.

Assignments: Your grade will be the average of the best 2 out of 3 assignments. One of the best ways to learn is to teach and you may wish to work together on assignments. However, *you must hand in an individual assignment, which **must be written in your own words**. If you worked in a group, please write down other group members, names on top right hand side of assignment. Submit via Brightspace **Assessments>>Assignments**.*

Practice Problem Sets: These are provided for practice and are NOT handed in. **Answers** are posted so you can check your answers and if you get stuck, you may peek at answers to help you to see how to proceed. However, do your best to try the problem on your own before peaking at the answers.

Discussion Board:

You are encouraged to participate in online forums such as "**Ask a Question or Make a Comment**" and "**Cost Benefit Analysis Issues in the News**". These are accessed via the "Discussions" tab in Brightspace. You may participate in the class discussion using your real name or anonymously (meaning that other students will not know who you are but the professor and teaching assistants will know your name).

Office Hours: There are a mixture of online and real office hours (see above). If you are unable to make these hours and have a question, please email the professor or TAs to set up an appointment. Dependent upon Covid conditions, office hours may be moved entirely Online.

Virtual Rooms (Collaborate): These are used for office hours and meetings and allow students to interact via video, audio, and chat. A room will be open all the time for meetings and can be accessed via "content">> "office hours and virtual meeting rooms". You may wish to meet with your group or study buddies via these rooms.

Course Topics List (tentative as time permits)

* page #s refer to textbook of Boardman et. al. 5th ed.

Topic	Reading
1. Introduction	ch. 1(1 - 27)
2. Conceptual Foundations	ch. 2 (28 - 54)
3. Microeconomic Foundations	ch. 3 (55 - 86)
4. Valuing Impacts from Observed Behaviour: Direct Estimation of Exam Schedules	ch. 4 (87 - 118)
5. Valuing Impacts in Output Markets	ch. 5 (119 - 142)
6. Valuing Impacts in Input Markets	ch. 6 (143 - 161)
7. Valuing Impacts in Secondary Markets	ch. 7 (162 - 181)
8. Predicting and Monetizing Impacts	ch. 8 (182 - 200)
9. Discounting Mechanics and Handling Inflation	ch. 9 (201 - 236)
10. The Social Discount Rate	ch. 10 (237 - 268)
11. Uncertainty and Risk: Sensitivity Analysis	269 - 314
12. Value of Information (Quasi Option Value)	- 314
13. Risk, Option Price and Option Value	315 - 332
14. Monetary Valuation of Impacts: Selected Topics - may include existence value, contingent valuation, valuing impacts from observed behaviour, and indirect market methods).	Selected Sections from Ch. 13 - 19 as time permits
15. Limitations of CBA Methodology and Summary * discussion of equity weights, utility-based CBA, and cost effectiveness analysis will also be discussed throughout this course.	Ch. 20 565 - 578

How to Learn in this Course

- attend lectures, take careful notes and ask questions.
- practice, practice, practice! seriously attempt practice problem and if stuck take a look at solution and then continue on like that.
- read and work through text book before and after the lecture. This may include writing down concepts in your own words, redrawing graphs, practicing math, and experimenting with changing values in equations.

- ask questions during class, after class, during office hours, and on the discussion board.
- do all assignments.
- study for tests (do review sheet problems).
- work with other students to share ideas and information (Brightspace discussion board may facilitate this).
- manage your time (ex. start assignments early, not the night before they are due).
- If you need help, please come to TA or Professor's office hours.

Course Policies

Late or Missed Midterms or Assignments: If you miss a midterm or assignment due to illness, as soon as possible, inform the professor via email and submit a **Declaration of Absence (DOA)** form **through Brightspace**. This form may only be used twice for this course. These are available at: https://www.dal.ca/dept/university_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html

In the case of a **missed midterm or more than one missed assignment**, other evaluation components will be given higher weight. There is no make-up midterm.

If the **final exam is missed due to illness**, please inform the professor by email as soon as possible to arrange to write an alternative exam.

Late assignments receive a *maximum penalty of 5% per day*, unless the student submits a DOA form and will not be accepted after answers have been posted on the Brightspace.

Class slides are a complement, not a substitute for reading the textbook. It is recommended that you read assigned readings prior to the lecture.

Students are responsible for **checking Brightspace "Announcements" regularly**. Important information to guide your learning as well as occasional corrections to assignments or test review questions is posted there.

Online Access: When connecting to online resources, you are responsible for observing any applicable laws of the country you are connecting from.

You are responsible for establishing whether you have access to all course material as soon as the term begins and before the ADD/DROP date. If you do not have access to certain material, inform the instructor as soon as possible. Alternative access methods are not guaranteed.

Students are responsible for **checking the final exam schedule prior to booking any flights**.

Part B: University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

Code: https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness

Statement: <http://www.dal.ca/cultureofrespect.html>

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca).

Information: https://www.dal.ca/campus_life/communities/indigenous.html

Important Dates in the Academic Year (including add/drop dates)

<https://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=117&chapterid=-1&topicgroupid=31821&loadusercredits=False>

University Grading Practices

https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

Part C: Student Resources and Support

Advising

General Advising https://www.dal.ca/campus_life/academic-support/advising.html

Science Program Advisors: <https://www.dal.ca/faculty/science/current-students/undergrad-students/degree-planning.html>

Indigenous Student Centre: https://www.dal.ca/campus_life/communities/indigenous.html

Black Students Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus_life/international-centre/current-students.html

Academic supports

Library: <https://libraries.dal.ca/>

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Copyright Office: <https://libraries.dal.ca/services/copyright-office.html>

Fair Dealing Guidelines <https://libraries.dal.ca/services/copyright-office/fair-dealing.html>

Other supports and services

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness.html

Student Advocacy: <https://dsu.ca/dsas>

Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Safety

Biosafety: <https://www.dal.ca/dept/safety/programs-services/biosafety.html>

Chemical Safety: <https://www.dal.ca/dept/safety/programs-services/chemical-safety.html>

Radiation Safety: <https://www.dal.ca/dept/safety/programs-services/radiation-safety.html>

Scent-Free Program: <https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>

Dalhousie COVID-19 information and updates: <https://www.dal.ca/covid-19-information-and-updates.html>