



Faculty of Science: Department of Economics

Course Syllabus

Econ3350.03 Social Cost Benefit Analysis

Winter, 2024

Dalhousie University acknowledges that we are in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq People and pays respect to Indigenous knowledge held by the Mi'kmaq People, and to the wisdom of their Elders past and present. The Mi'kmaq People signed Peace and Friendship Treaties with the Crown, and section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty rights. We are all Treaty people.

Dalhousie University also acknowledges the histories, contributions, and legacies of African Nova Scotians, who have been here for over 400 years.

Instructor: Ruth Forsdyke, Ruth.Forsdyke@Dal.ca

Lectures: Mon., Wed., 11:35 – 12:55 (LSC Common Area, room C202)

Office Hours (Professor):

In Person: Mon. & Wed., 3 pm to 4 pm (room C12, 6220 University Avenue)

Online via Brightspace using Collaborate: (Tues. 11:30 am- 12:20 pm)

Teaching Assistant (TA): Yu Jiang, YuJiang@dal.ca, Office Hours (TBA)

Course Delivery: in person, lectures not recorded

If you need help and are unable to attend these office hours, please email us to set up an appointment.

Part A: Course Information

Course Description

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.

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.

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 and why 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 to real world problems 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.

"The human mind is our fundamental resource." John F. Kennedy

"Not everything that can be counted counts. Not everything that counts can be counted." William Bruce Cameron

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. 14th 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 (March 20th, 25nd & 27th, Report (April. 1 st)

Details on Group Project:

You will 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 (Fri. Jan. 26th)

- Meet with TA to discuss project, ask questions, and get advice (between Feb 1st and Feb 16th)

- **Proposed outline of approach** including preliminary identification of preliminary benefit-cost categories, preliminary reference list/ plan for dividing up the work. For full marks, you must have met with TA = 4% (Mon, Feb 26th)

- **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) (April 1st)

- **Appraisals and Evaluations** of self / other group members / other groups' presentations/ your attendance at other group's presentations = 3 % (Wed, April 3rd)

Total grade = 25 %

* In addition to the mandatory meeting with the TA (see above), you are strongly encouraged to meet with Yu Jiang and/or Ruth (throughout the term) to discuss your projects; We would love to help you out!

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 during the regular class time and the final exam is scheduled by the Registrar and both are on campus and on paper.

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 peak 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 in the News**". These are accessed via the "Discussions" tab in Brightspace. You may participate by 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 class -- if you have to miss a lecture due to illness for example, find out what you missed and if there is an available video, watch it.
- attending class will help you to establish a rhythm and reduce chances of falling behind.
- take notes in class -- this will force you to process the information and help you to pay attention. If you missed some parts, leave a space and fill this in using the slides, textbook readings, and/or from asking questions to other students or during office hours.
- 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. 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.
- 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 attach a **Declaration of Absence (DOA)**. 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. A sick note from a qualified medical practitioner is required for missed final exams.

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.

If you are sick, please get a **covid test** and do not come to class. Find out what you missed via emailing other students (or TA or professor if you do not know other students) and catch up via online content.

Students are responsible for ***checking the final exam schedule prior to booking any flights***. **Early final exams will NOT be scheduled under any conditions**, so please do NOT ask.

Part B: University Policies and Statements

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 at 1321 Edward St or elders@dal.ca. Additional information regarding the Indigenous Student Centre can be found at: https://www.dal.ca/campus_life/communities/indigenous.html

Internationalization

At Dalhousie, 'thinking and acting globally' enhances the quality and impact of education, supporting learning that is "interdisciplinary, cross-cultural, global in reach, and orientated toward solving problems that extend across national borders." Additional internationalization information can be found at: <https://www.dal.ca/about-dal/internationalization.html>

Academic Integrity

At Dalhousie University, we are guided in all our work by the values of academic integrity: honesty, trust, fairness, responsibility, and respect. As a student, you are required to demonstrate these values in all 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.

Additional academic integrity information can be found at:
https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Student Accessibility Centre is Dalhousie's centre of expertise for matters related to student accessibility and accommodation. If there are aspects of the design, instruction, and/or experiences within this course (online or in-person) that result in barriers to your inclusion, please contact the Student Accessibility Centre (https://www.dal.ca/campus_life/academic-support/accessibility.html) for all courses offered by Dalhousie with the exception of Truro. For courses offered by the Faculty of Agriculture, please contact the Student Success Centre in Truro (<https://www.dal.ca/about-dal/agricultural-campus/student-success-centre.html>)

Conduct in the Classroom – Culture of Respect

Substantial and constructive dialogue on challenging issues is an important part of academic inquiry and exchange. It requires willingness to listen and tolerance of opposing points of view. Consideration of individual differences and alternative viewpoints is required of all class members, towards each other, towards instructors, and towards guest speakers. While expressions of differing perspectives are welcome and encouraged, the words and language used should remain within acceptable bounds of civility and respect.

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 (Strategic Priority 5.2). Additional diversity and inclusion information can be found at: <http://www.dal.ca/cultureofrespect.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. The full Code of Student Conduct can be found at:

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

Fair Dealing Policy

The Dalhousie University Fair Dealing Policy provides guidance for the limited use of copyright protected material without the risk of infringement and without having to seek the permission of copyright owners. It is intended to provide a balance between the rights of creators and the rights of users at Dalhousie. Additional information regarding the Fair Dealing Policy can be found at:

https://www.dal.ca/dept/university_secretariat/policies/academic/fair-dealing-policy-.html

Originality Checking Software

The course instructor may use Dalhousie's approved originality checking software and Google to check the originality of any work submitted for credit, in accordance with the Student Submission of Assignments and Use of Originality Checking Software Policy. Students are free, without penalty of grade, to choose an alternative method of attesting to the authenticity of their work and must inform the instructor no later than the last day to add/drop classes of their intent to choose an alternate method. Additional information regarding Originality Checking Software can be found at: https://www.dal.ca/dept/university_secretariat/policies/academic/student-submission-of-assignments-and-use-of-originality-checking-software-policy-.html

Student Use of Course Materials

Course materials are designed for use as part of this course at Dalhousie University and are the property of the instructor unless otherwise stated. Third party copyrighted materials (such as books, journal articles, music, videos, etc.) have either been licensed for use in this course or

fall under an exception or limitation in Canadian Copyright law. Copying this course material for distribution (e.g. uploading to a commercial third-party website) may lead to a violation of Copyright law.

Part C: Faculty of Science Student Resources and Support

University Policies and Programs

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

http://www.dal.ca/academics/important_dates.html

Classroom Recording Protocol:

https://www.dal.ca/dept/university_secretariat/policies/academic/classroom-recording-protocol.html

Dalhousie Grading Practices Policies:

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

Grade Appeal Process: https://www.dal.ca/campus_life/academic-support/grades-and-student-records/appealing-a-grade.html

Sexualized Violence Policy: https://www.dal.ca/dept/university_secretariat/policies/health-and-safety/sexualized-violence-policy.html

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

Learning and Support Resources

General Academic Support – Advising (Halifax): https://www.dal.ca/campus_life/academic-support/advising.html

General Academic Support – Advising (Truro): <https://www.dal.ca/about-dal/agricultural-campus/ssc/academic-support/advising.html>

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

On Track (helps you transition into university, and supports you through your first year at Dalhousie and beyond): https://www.dal.ca/campus_life/academic-support/On-track.html

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

Indigenous Connection: <https://www.dal.ca/about-dal/indigenous-connection.html>

Elders-in-Residence (The Elders in Residence program provides students with access to First Nations elders for guidance, counsel, and support. Visit the office in the Indigenous Student Centre or contact the program at elders@dal.ca or 902-494-6803:

<https://cdn.dal.ca/content/dam/dalhousie/pdf/academics/UG/indigenous-studies/Elder-Protocol-July2018.pdf>

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

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

South House Sexual and Gender Resource Centre: <https://southhousehalifax.ca/about/>

LGBTQ2SIA+ Collaborative: <https://www.dal.ca/dept/vpei/edia/education/community-specific-spaces/LGBTQ2SIA-collaborative.html>

Dalhousie Libraries: <http://libraries.dal.ca/>

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

Dalhousie Student Advocacy Services: <https://www.dsu.ca/dsas?rq=student%20advocacy>

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

Human Rights and Equity Services: <https://www.dal.ca/dept/hres.html>

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

Study Skills/Tutoring: http://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Faculty of Science Advising Support: <https://www.dal.ca/faculty/science/current-students/undergrad-students/degree-planning.html>

Safety

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

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

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

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