



Faculty of Science: Department of Economics
Course Syllabus

Econ3350.03 Social Cost Benefit Analysis

Winter, 2025

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., 1:05 pm – 2:25 pm (LSC-Oceanograph 03655)

Office Hours (Professor):

Tues, Thurs 12:00 pm - 1:30 pm, room C12, Economics Department, 6220 University Ave.

Teaching Assistant (TA): Simone Alim, SimoneAlim@dal.ca, Office Hours (TBA)

If you have questions and are unable to attend these office hours, please email us to set up an appointment. Appointments may be online via "[Collaborate](#)" under "[Brightspace](#)">> "[Content](#)".

Course Delivery: in person, lectures not recorded

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, preparing, and giving a presentation.
- Practice "learning how to learn" and develop true confidence in your ability to learn.
- Improve skills in critical thinking.
- True learning may at times be easy and at other times be a massive challenge. But a challenge that is well worth while!

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

- **older editions (ex. 4th ed.)** are also fine but page numbers of readings will be different than in the Tentative Outline, above.

- books are available in paper or electronic form at the Dalhousie bookstore (<https://bookstore.dal.ca/Course/campus>)

- **Electronic textbook (E-book)** 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 white or blackboard and slide shows. Slide shows are posted after class and should be thought of as complements (not perfect substitutes) to attending live lectures and reading the textbook.

Course Assessment

Component	Weight (% of final grade)	Date
Midterm	(20 %)	(Mon, Feb. 10 th in class)
Final exam	(40 %)	(Scheduled by Registrar)
Assignments	(15%, best 2 out of 3)	(2 before midterm and 1 after)
Group Project	(25%)	Presentation (March 19th, 24th & 26th) Report (March 31 st)

Details on Components of Group Project, Due Dates, and Evaluation weight:

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 professor. Indicate two choices ordered by preference (Fri. Jan. 24th)
 - Meet with TA to discuss project, ask questions, and get advice (between Feb 3rd and Feb 14th)
 - **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 24th)
 - **Presentation** = 10 % (group grade) (see dates under "Course Assessment" above)
 - **Written Report** = 8 % (grade based on both group and individual components/ write your name on sections you were mainly responsible for) (Mon, March 31st)
 - **Appraisals and Evaluations** of self / other group members / other groups' presentations/ your attendance at other group's presentations = 3 % (Mon., March 31st)
- Total grade** = 25 %

* In addition to the mandatory meeting with the TA (see above), you are highly encouraged to meet with Simone 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 or after class, on the discussion board, and during office hours. If your question is likely to be of general interest to the class, you may wish to ask in class or on the Discussion board to help other students. Alternatively, ask during office hours. You may email your questions to the TA or professor particularly if it is of a private nature or is not likely to be of general interest to the class. Rapidity of responses to email questions depends on email volumes.

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 using your own ideas 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 to be handed in. **Answers** will be posted so that you can check your answers. If you get stuck, peak at answers to help you to see how to proceed. However, I recommend that you try your best to solve the problem on your own before peaking at the answers. This method will, hopefully, enable you to become good at solving problems!

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 other classmates in these rooms.

How to Learn in this Course

- read through the course syllabus to get an idea of what lies ahead.
- attend class -- if you miss a lecture due to illness, for example, find out what you missed and if there is an available video, watch it.
- attending class may help you to establish a learning rhythm and reduce chances of falling behind.
- taking notes in class requires you to think about and engage with the lecture and may help you to pay attention.
- Trying the problems while the teacher is doing them is an excellent way to "learn by doing".
- do the practice problems on your own. If you get stuck, peak at the solution and then try on your own again. Repeat as necessary. Note down where you went wrong in your initial attempt. Ask questions.
- make a schedule, write down due dates in your planner and set aside times to study.

- manage your time and avoid distractions such as social media while studying.
- read and work through textbook. 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 /and Professor's office hours.

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 - 290
12. Value of Information (Quasi Option Value)	290- 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

Course Policies

1) Students are responsible for **checking the final exam schedule prior to booking any flights**. Due to challenging logistics, there are **no early exams under ANY circumstances**.

2) **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 **Student Declaration of Absence (DOA)** form. DOA forms 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

- 3) If you submitted a student DOA, in the case of a **missed midterm**, the **entire test weight will be moved to the final exam**. If you submitted a student DOA for a missed assignment, assignment weights will be re-weighted. There will be **no make-up midterm**.
- 4) If the **final exam is missed** due to illness, death in the family, or other traumatic circumstances, please inform the professor by email as soon as possible to arrange to write an alternative exam.
- 5) **Late assignments** receive a maximum penalty of 3% per day, unless the student submits a DOA form and will not be accepted after answers have been posted on the Brightspace.
- 6) **Class slides** are a **complement and a highly imperfect substitute** for **reading the textbook**. If time permits, try to do at least some of the assigned readings prior to the lecture. When you read the textbook, with pencil and paper, work through the examples. You may wish to take notes to organize the material in a way that makes sense to you and can be more easily reviewed for the tests.
- 7) 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.
- 8) **Online Access**: When connecting to online resources, you are **responsible for observing any applicable laws of the country you are connecting from**.
- 9) 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 cannot access certain material, inform the instructor as soon as possible. Alternative access methods are not guaranteed.
- 10) **If you are sick**, it is recommended that you take a **covid test**. If you are sick, it's recommended that you rest at home and 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. You are encouraged to email us to set up an online office hour appointment. **Masks** help to protect yourself and vulnerable others from covid and flu.
- 11) **Academic Integrity**: Please see University Policy Statements on Academic Integrity below -- You are advised to read about what constitutes **plagiarism** at the link given. Note that communicating with anyone other than the professor, TA, or exam invigilators during midterms or final exams is considered to be a violation of academic integrity. Specific details on issues of academic integrity, will be included with individual assignments, tests, and midterms, and will be discussed in class. If you have questions, please ask the professor.

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/about/leadership-governance/academic-integrity/faculty-resources/ouriginal-plagiarism-detection.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: 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

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>