

# ECON 3433 (WI01) - Cost-Benefit Analysis

Department of Economics

Acadia University

Winter 2022

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Instructor	Dr. Justin Beaudoin
Email	justin.beaudoin@acadiau.ca
Office Location	BAC 346 & Virtual (Microsoft Teams)
Office Hours	By appointment
Course Website	<a href="https://acorn.acadiau.ca/course/view.php?id=26268">https://acorn.acadiau.ca/course/view.php?id=26268</a>
Class Location	In person: BAC 204; Live stream: Microsoft Teams
Class Times	Mon/Wed, 1:00 - 2:20pm

## Course Description

ECON 3433 provides an introduction to the practice of project evaluation via cost-benefit analysis. Throughout the course, we will learn the fundamental principles and concepts of cost-benefit analysis. This course will help you understand how to build a microeconomic model in order to evaluate the effects of a potential project/policy, as well as how to communicate the results to stakeholders. We will gain the tools to answer the following questions:

1. What are the categories of costs and benefits due to a proposed project/policy?
2. How do we measure these costs and benefits?
3. How do we compare these costs and benefits over the life of the project/policy to determine whether this project/policy is desirable or not?
4. How do we incorporate uncertainty into this assessment?

## Course Learning Objectives

A solid understanding of the material in this course is beneficial for further studies in economics, and the economic approach to analyzing issues has wide applicability for a variety of careers. By the end of the course, students will have learned the basic analytic skills and techniques that will allow them to use economic models and to apply microeconomic reasoning to analyze real-world issues.

More specifically, upon course completion students are expected to be able to:

- apply cost-benefit analysis concepts in their professional and personal lives,
- apply microeconomic concepts to assess specific real-world problems,
- display improved report writing skills and the ability to communicate economic language to a broader audience,

- benefit from improved speaking and presentation skills,
- exhibit basic data presentation and analysis skills, and
- gain tangible experience and skills that will be beneficial in both pursuing further studies and in transitioning to careers after graduation.

### **Prerequisite**

In general, completion of ECON 1013 with a grade of C- or better (or approval of the instructor). While students without a background in supply and demand analysis may find parts of the course more challenging, the required microeconomic concepts will be discussed as necessary as the course proceeds. In terms of mathematical preparation, we will utilize graphical representations of various relationships, algebraic calculations and creating a model using a spreadsheet. It is my objective to teach the material in a manner that is not overly technical and it is my hope that mathematics do not become an obstacle in learning the material.

### **Class Format**

While this course will follow Acadia’s guidelines as an “in person” course, it will be offered as a “hybrid scheduled” class. There are three ways to access the course meetings:

1. Face-to-face (in person) in BAC 204 on Mon/Wed from 1:00 - 2:20
2. Live stream via Microsoft Teams on Mon/Wed from 1:00 - 2:20 (to access the class you will need to ‘Join’ the scheduled meeting during this time)
3. Watch the recorded video asynchronously (a link will be posted on ACORN shortly after the class concludes)

It is highly recommended that you use Option 1 or 2 whenever possible. I cannot guarantee the quality/reliability of the recordings, and participating synchronously allows you to better ask questions and to keep pace with the course. It is expected that all students make an effort to contribute to class discussions, whether in person or online.

Please note that some classes may be fully online, due to issues such as weather, health, etc. If this is the case, this will be announced in advance of class. Please contact me if there is ever any confusion about the day’s plans.

### **Course Materials and Websites**

ACORN is the primary source for class announcements and will contain all course materials: syllabus, class notes/slides, video recordings, and materials for assignments and tests.

Teams is used for live streaming class meetings and for office hours; course material will *not* be stored on Teams.

If there is any confusion about where to locate specific material, feel free to contact me for clarification.

## **Technology Issues & Support**

If you are having technological issues, please contact the Service Desk for support. The Consultants will help you work through any issues that you're having. There are several contact methods:

Live Chat: [ts-chat.acadiau.ca](https://ts-chat.acadiau.ca)

HUB Service Portal: [hub.acadiau.ca](https://hub.acadiau.ca) or [ts.acadiau.ca](https://ts.acadiau.ca)

Phone: 902-585-4357 or 1-888-609-3330

Email: [helpdesk@acadiau.ca](mailto:helpdesk@acadiau.ca)

## **How to Ask Questions?**

I encourage you to ask questions throughout the course. I can promise you that if you have a question, several of your classmates have that same question. There are many ways to ask questions relating to material discussed in class or covered in the prerecorded videos:

- In person during class
- Via Teams during class, using the chat window or by “raising your hand”
- During office hours
- Via email

## **Office Hours**

I will hold office hours by appointment this semester. You are welcome to send me an email to schedule a time to meet. Office hours may be held in my office or over Teams.

Should any issues or concerns arise throughout the course, you are encouraged to consult with me as soon as possible so that we can work together to find the resources to help you succeed.

## **Textbook**

There is no required textbook for this course. A useful resource produced by the Environmental Protection Agency titled “Guidelines for Preparing Economic Analyses” has been posted on ACORN, and this covers many of the concepts that we will be applying in the course.

An optional textbook for the course that I have previously used is:

“Cost-Benefit Analysis: Concepts and Practice, 5th Edition”, by Boardman, Greenberg, Vining and Weimer (2018). ISBN: 978-1-108-40129-6. This book is often used for undergraduate courses in Cost-Benefit Analysis, and the class discussions will aim to supplement the material in the text as needed.

## Course Project

The course will be structured around our objective of preparing a cost-benefit analysis for a local organization and/or proposed project or policy. This semester we will be working with the POSSE Project (<https://www.posseproject.ca/>), which is an organization in Windsor, NS that provides support services and outreach for at-risk youth. We will work collaboratively as a class to prepare a written report and provide a presentation of our results at the end of the semester. Specific tasks will be delegated in an ongoing basis throughout the course, depending on the progress we make. As a result, the content and schedule of the course will be somewhat *ad hoc*, which reflects how this type of work is carried out in practice. Further instructions and guidance will be provided as the course proceeds.

## Final Exam

The Final Exam will be conducted online through ACORN and will be a “take home” exam assigned over the Final Exam period. The exam will be posted at the beginning of the exam period and will be due by the end of the exam period. The exam will cover the entire course and will focus on a case study of a cost-benefit analysis, with more details provided later in the course. Each student will complete the exam independently.

## Grading

Project: Report & Presentation	75%
Class participation/engagement	20%
Peer assessment	25%
Individual assessment/reflection	10%
Submitted tasks	20%
Final Exam	25%

Details (such as rubrics) regarding how the components of the report and presentation will be evaluated will be shared as the course proceeds. My objective is to illustrate how these types of projects would be carried out in the “real world”; for this course to be successful (and for individual students to be successful), consistent attendance and active engagement are expected and required.

The grade scale for the course is below:

Letter Grade	GPA	% Range	Rating
A+	4.33	90 - 100%	Excellent
A	4.0	85 - 89%	
A-	3.67	80 - 84%	
B+	3.33	77 - 79%	Good
B	3.0	73 - 76%	
B-	2.67	70 - 72%	
C+	2.33	67 - 69%	Average
C	2.0	63 - 66%	
C-	1.67	60 - 62%	
D+	1.33	57 - 59%	Pass
D	1.0	53 - 56%	
D-	0.67	50 - 52%	
F	0.0	0 - 49%	Failure

## Class Material

The following list outlines the material that we will cover in the course, with the class discussions highlighting the most important concepts. We will cover the various topics as needed in order to complete our report.

- Introduction to Cost-Benefit Analysis
- Conceptual Foundations of Cost-Benefit Analysis
- Microeconomic Foundations of Cost-Benefit Analysis
- Valuing Impacts from Observed Behavior: Direct Estimation of Demand Schedules
- Valuing Impacts in Output Markets
- Valuing Impacts in Input Markets
- Valuing Impacts in Secondary Markets
- Predicting and Monetizing Impacts
- Discounting Future Impacts and Handling Inflation
- The Social Discount Rate
- Dealing with Uncertainty: Expected Values, Sensitivity Analysis, and the Value of Information
- Risk, Option Price and Option Value
- Shadow Prices from Secondary Sources
- Presenting and discussing results

The class notes and links to recorded videos will also be posted on ACORN.

## **Class Schedule**

Given the nature of the course, I am not going to prepare a detailed schedule in advance. I will communicate due dates and important dates (such as presentations and meetings with the community partner) as soon as possible. Please contact me if you encounter any scheduling challenges or you ever require more information to help you plan your semester.

## **Course Policies**

Course dates/policies are outlined at the beginning of the course and are the student's responsibility; please communicate any issues, concerns or scheduling conflicts *well before* the relevant deadline so that we can address the issue appropriately.

Please communicate with me if an illness or other issue will cause you to miss multiple classes. I ask that students exercise proper classroom etiquette in respect of their classmates and the instructor (both in person and virtually).

## **University Policies**

Please refer to the following link for the latest University updates and any policy information regarding Covid-19:

<https://www2.acadiau.ca/covid-19.html>

Please review and adhere to the University's Mask Policy:

<https://www2.acadiau.ca/covid-19/mask-policy.html>

Please review and adhere to the Student Code of Conduct:

<https://www2.acadiau.ca/files/files/COVID-19/StudentCodeofConductBriefing.pdf>

## **Accessibility**

If you are a student with documentation for accommodations who anticipates needing supports or accommodations, please see the following link for resources:

<https://www2.acadiau.ca/student-life/accessiblelearning.html>

## **Academic Ethics**

It is the responsibility of students to familiarize themselves with the University's policy on academic ethics. Copying, plagiarism and other academic offenses will not be tolerated. Penalties are severe and may result in suspension from a program/course and expulsion. A complete list of Academic Regulations can be found on the Policies page of the University's website. I strongly recommend that all class members review the sections in the 2021-22 academic calendar dealing with Academic Policy and Regulations. It is a serious offense to engage in academic misconduct.

*Last updated: January 23, 2022*