

COST-BENEFIT ANALYSIS
ECONOMICS EC2184B-001
Department of Economics
Western University

January 2021

General Information:

Instructor: Irene Trela

Office Hours (weekdays 8am-8pm Eastern Time):

- Via e-mail:** use your uwo e-mail to e-mail me at itrela@uwo.ca (you should typically expect a reply within a few hours, except weekends and holidays)
- Via Zoom:** request a zoom meeting by emailing me using your uwo e-mail and requesting a day/time in the Eastern Time Zone; I will then set up a Zoom meeting for you at that time

Delivery mode: online asynchronous

Course website: <https://owl.uwo.ca/portal>

Undergraduate inquiries: 519-661-3507 SSC Room 4075 or econugrd@uwo.ca

Registration:

You are responsible for ensuring you are registered in the correct courses. If you are not registered in this course, the Department will not release any of your marks until your registration is corrected. You may check your timetable by using the Login on the Student Services website at <https://student.uwo.ca>. If you notice a problem, please contact your home Faculty Academic Counsellor immediately.

Prerequisite Note:

The prerequisite for this course is **Economics 2151a/b**.

You are responsible for ensuring that you have successfully completed all course prerequisites, and that you have not taken an antirequisite course. Lack of prerequisites may not be used as a basis for appeal. If you are found to be ineligible for a course, you may be removed from it at any time and you will receive no adjustment to your fees. This decision cannot be appealed.

If you find that you do not have the course prerequisites, it is in your best interest to drop the course well before the end of the add/drop period. Your prompt attention to this matter will not only help protect your academic record, but will ensure that spaces become available for students who require the course in question for graduation.

Course Objectives:

The purpose of cost-benefit analysis (CBA) is to help in public sector decision making – to determine whether proposed public projects and policies will ultimately benefit or disadvantage society. Most economists view this area as applied welfare economics and this course is designed to acquaint students with this area of economics. CBA is a normative tool used to describe how decisions *should be* made. As such, it is not a description of how political and bureaucratic decision makers *actually make* decisions. Basic concepts and methods will be fully integrated with illustrations and practical examples in order to effectively convey the essential tools of CBA.

Course Learning Outcomes:

Students will be able to explain how to use microeconomic theory to assess social costs and benefits in cost-benefit analysis.

Students will learn how to analyze problems of social choice using cost-benefit analysis.

Students will be able to apply discounting methods for intertemporal comparisons of social costs and benefits.

Students will be able to understand the meaning of an efficient distribution of resources.

Students will learn how cost-benefit analysis can contribute to, as well as provide a useful vehicle for, understanding the practical value of welfare economics.

Students will be able to understand the concept of market failure and the efficiency justification for government intervention.

Students will be able to identify the distributional consequences of changes in social surplus that result when new policies, programs, or projects are implemented.

Students will learn about the main problems that arise in a typical cost-benefit exercise, including double-counting and the monetization of intangibles.

Students will understand the importance of accounting for the efficiency impacts of taxes on government inflows and outflows.

Students will be able to analyze the impact of uncertainty on cost-benefit analysis.

Students will be able to use cost-benefit analysis as a normative tool to formulate economic advice and evaluate government policy.

Textbook(s) and Course Materials:

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

This is a new version of the textbook; older versions are not acceptable.

Course Website:

<http://owl.uwo.ca> : this site gives you access to lecture notes (including questions in your lecture notes that will help guide you in working your assigned homework and additional practice questions), homework questions and additional practice questions (questions that you need to work in order to do well on exams), and announcements (i.e. exam scheduling and other important announcements). **Students are reminded that lecture notes (and questions in the lecture notes), homework and additional practice questions will ALL be subject to examination.**

Communication:

- Students should check the course OWL site for announcements and/or their uwo email for new messages posted to OWL
- Students should post all course-related questions on the forum; that way everyone has access to the questions and answers (expect answers to your questions reasonably soon after posting or at least within a few hours)
- Students can email me at itrela@uwo.ca if they have other questions or personal matters they wish to discuss (expect a reply reasonably soon after sending or at least within a few hours)
- Students can book a zoom meeting with me if they wish to discuss questions in more detail. Zoom meetings can be booked almost instantaneously (if I'm monitoring my e-mail), or at least for the same day, or booked in advance.

Technical Requirements:

- Laptop or computer
- Stable internet connection
- Microphone and Webcam
- Scanner/ Smartphone

This equipment is needed for the following purposes: (1) to access the resources and announcements on OWL, (2) to participate in virtual office hours using Zoom, (3) to write exams on OWL and for virtual proctoring of any exams, and (4) to be prepared for unforeseen circumstances. One such circumstance is that, if an OWL exam is disrupted by technical difficulties, students may be required to scan or take pictures of handwritten answers and send these images to the instructor via email.

For technical support, see the OWL Help page or contact Western Technology Services Helpdesk (<https://wts.uwo.ca/about-wts/contact.html>). Google Chrome or Mozilla Firefox are the preferred browsers for OWL; update your browser frequently.

Assessments and Grading:

Assessment	Tentative Date	Tentative Chapters in Lecture Notes	Tentative Start Time	Tentative End Time	Allotted Time	Weight
Midterm 1	Fri. Feb 12	1; 3; and 5, 6, 7 & 14 (up to and including slide 72 in your lecture notes)	1:30PM ET	4:00PM ET	2.5 hours	31%
Midterm 2	Sun. Mar 21	5, 6, 7 & 14 (beginning with slide 73 in your lecture notes); and 9 & 10	7:30PM ET	10:00PM ET	2.5 hours	31%
Final Exam	TBA	Cumulative: 1; 3; 5, 6, 7 & 14; 9 & 10; 11; 4, 13, 15 & 16	TBA	TBA	2.5 hours	38%

Exams will be scheduled officially by the Registrar's Office, but they are tentatively set for the dates/times noted above, though subject to change. Students will be notified once officially scheduled.

ET refers to Eastern Time.

The midterms and final exams will be open-book and in mixed format that may contain some or all of the following types of questions:

- True/False Questions
- True/False 'Grouped' questions
- Fill-in-the-blank Questions
- Fill-in-the-blank 'Grouped' Questions
- Multiple Choice Questions

'Grouped' questions are a series of questions pertaining to a diagram or word statement.

Exams will be administered on OWL (details of how to access the exams will be available to students at a later date).

Policy Regarding Missed Assessments:

Students **must** follow Western University's procedures for approval of their absence from any exam in order to receive an accommodation. Please see the **Please Note Department Policies for 2020-2021** section of this syllabus for details on these procedures. If during the Winter 2021 term Western University announces any changes to these procedures, please follow those procedures.

STUDENTS WHO MISS AN EXAM (MIDTERM OR FINAL) MUST ALSO E-MAIL ME OF THEIR ABSENCE FROM THE EXAM AT LEAST 1 HOUR PRIOR TO THE COMMENCEMENT OF THE EXAM.

There are no makeup midterm exams. Rather, students with an approved absence from a midterm exam AND who e-mailed me of their absence from the exam at least 1 hour prior to the commencement of the exam will have the weight of the missed exam transferred to the final exam. Students with a re-weighted final may find that their final exam differs in format and/or content from the final exam given to students who have written their exams at the regularly scheduled times.

Make-up final exams will be scheduled by the instructor. Students with an approved absence from the final exam AND who e-mailed me of their absence from the exam at least 1 hour prior to the commencement of the exam will be allowed to write a makeup exam. Students writing a makeup final exam (and who wrote their midterm exams at the regularly scheduled times) may find their final exam differs in format and/or content from the final exam given to students who have written their final exam at the regularly scheduled time (and who wrote their midterm exams at the regularly scheduled times). Students with a *re-weighted* final who are writing a makeup final exam may find their final exam differs in format and/or content from the final exam given to students who have written their final exam at the regularly scheduled time.

Students who fail to email me at least 1 hour prior to their absence from an exam and/or who do not obtain approval for their absence from an exam will receive a grade of zero for their missed exam.

Online Proctoring Notice:

Makeup exams in this course may be conducted using Zoom. If so, you will be required to keep your camera on for the entire session, hold up your student card for identification purposes, and share your screen with the invigilator if asked to do so at any time during the exam. The exam session will not be recorded.

More information about the use of Zoom for exam invigilation is available in the Online Proctoring Guidelines at the following link: <https://www.uwo.ca/univsec/pdf/onlineproctorguidelines.pdf>. Completion of this course will require you to have a reliable internet connection and a device that meets the system requirements for Zoom. Information about the system requirements are available at the following link: <https://support.zoom.us/hc/en-us>

Please note that Zoom servers are located outside Canada. If you would prefer to use only your first name or a nickname to login to Zoom, please discuss this with your instructor in advance of the test or examination.

Topics Covered and Reading List:

Introduction to Cost-Benefit Analysis, Chapter 1:

Pgs. 1-14 (but omit Bureaucratic and Political Lenses”, pgs. 16-18 (Guardians), pgs. 21-22 (The Origins and Demand for CBA: Origins, Government and Courts).

Microeconomic Foundations of Cost-Benefit Analysis, Chapter 3:

Pgs. 55-57 (up to and including equation 3.2), pgs. 59-60 (but excluding equations 3.7 and 3.8), pgs. 60-64 (but excluding Profits and Factor Surplus), pgs. 65-75 (excluding Appendix 3A)

Valuing Impacts in Output Markets, Chapter 5:

Pgs. 125-128 (Monopoly), pgs. 130-133 (Externalities), pgs. 134-137 (Public Goods)

Valuing Impacts in Output Markets, Chapter 5:

Pgs. 117-124, p. 138 (Conclusion)

Valuing Impacts in Input Markets, Chapter 6:

Pgs. 143-152, pgs. 158-159 (Conclusion)

Valuing Impacts from Observed Behaviour, Chapter 14:

Pgs. 363-364

Valuing Impacts in Secondary Markets, Chapter 7:

Pgs. 162-166 (but excluding Efficient Secondary Market Effects with Price Changes), pgs. 168-171 (Valuing Benefits and Costs in Distorted Secondary Markets)

Discounting future Impacts and Handling Inflation, Chapter 9:

Pgs. 201-216 (but excluding Problems with Indices Based on Consumer Prices), pgs. 217-220 (but excluding Estimates of Future Inflation and Relative Price Changes), pgs. 221-223 (Terminal (or Horizon) Values, and Long-Lived Projects), pgs. 226-228 (Appendix 9A)

The Social Discount Rate, Chapter 10 (this chapter has more detail than we will consider in our lecture notes, so avoid getting caught up in the detail when reading the chapter):

Pgs. 235-241 (but only up to the first sentence on pg. 241), pg. 242 (but only the last paragraph under the heading Equality of MRTPs and Market Rates in Perfect Markets), pg. 243 (but only the last paragraph on the page), pg. 244 (but only the second half of the third paragraph), pgs. 244-245 (Complications in Real Economies), pgs. 245-247 (The Social Opportunity Cost of Capital (SOC) Method, p. 247 (Special Cases of the SOC, but only the first three paragraphs)

Dealing With Uncertainty, Chapter 11:

Pgs. 269-276 (but excluding Decision Trees and Expected Net Benefits), pgs. 279-280 (but excluding A Closer Look at the Vaccination program Analysis)

Valuing Impacts from observed Behavior: Direct Estimation of Demand Schedules, Chapter 4:

Pgs. 87-98 (but only the first paragraph in Cross-section Data versus Time Series Data), pgs. 102-103 (but excluding Multicollinearity)

Valuing Impacts from observed Behavior: Indirect Market Methods, Chapter 15:

Pgs. 389-390 (but excluding Market Analogy Method), pgs. 392-397 (The Trade-Off Method), pgs. 399-405, pgs. 406-413 (but excluding Limitations of the TCM), pgs. 414-415 (but only the first paragraph on p. 415)

Contingent Valuation: Using Surveys to Elicit Information about Costs and Benefits, Chapter 16:

Pgs. 422-424 (but excluding Contingent Ranking Method), pgs. 425-426 (but only the first three paragraphs on p. 426), pgs. 428-433 (but excluding Specifying the Payment Vehicle and Hypotheticality, Meaning, and Context Problems), p. 441 (starting Point Bias only)

Tips on How to do well in the course:

1. Read the “Welcome Statement” posted on OWL announcements.
2. Coverage of Midterm #1 is posted in the “Welcome Statement”, so gauge what you will need to work on a weekly basis so that you are well prepared for when that material is assessed for grades. (Following Midterm #1, there will be a similar post for coverage of Midterm #2; and a similar post for the final exam).
3. Start each week by reading the course notes (and working the questions in your lecture notes). The course notes are posted on OWL under *Resources>Lecture Notes*. Reference the textbook readings for clarification of the theory presented in the notes (*refer to the previous heading on this syllabus titled “Topics Covered and Reading List” for a complete reading list*).
4. Consider the application topics when they appear in the course notes. For details and specific questions on these application topics, see the postings on OWL under *Resources>Application Topics*.
5. Work the homework questions posted on OWL under *Resources>Homework Questions* and the additional practice questions posted on OWL under *Resources>Additional Practice Questions*. None of these questions will be graded, but they are **vital** in doing well in the course. Why is it so important to work these questions? Because economics requires active learning. The exams will test students not on their ability to memorize the course material but rather on their ability to understand and use logical step-by-step reasoning to arrive at answers. *Passively reading your notes and textbook rarely results in a passing grade.*
6. If you have any questions, post them on the Forum; that way everyone can access the questions and answers. I will be monitoring the forum daily, and you should typically expect a reply reasonably soon after your posting or at least within a few hours, excluding weekends and holidays.
7. You can always email me if you require additional assistance or if there are personal matters you wish to discuss. I will be monitoring my email daily, and you should typically expect a reply reasonably soon after your message is sent or at least within a few hours, excluding weekends and holidays.
8. If you would like to discuss course-related material in more detail than what may be possible on the forum or in e-mail, best to book a zoom meeting with me. A meeting can be booked almost instantaneously, or at least for the same day, or booked in advance.

Professionalism, Privacy and Copyright:

- Students are expected to follow the Student Code of Conduct.
- All lectures and course materials, including slides, presentations, outlines, and similar materials, are protected by copyright. Students may take notes and make copies of course materials for their own educational purposes only.
- Students may not record lectures, reproduce (or allow others to reproduce), post or distribute lecture notes, assessments, or any other course materials publicly and/or for commercial purposes without written consent of the instructor.
- Recordings (audio or video) are not permitted without explicit, written permission of the instructor. Permitted recordings may not be distributed or shared.

- Students are expected to follow online etiquette expectations provided on OWL (if applicable; otherwise delete this bullet point)
- Students will be expected to take an academic integrity pledge before some assessments.

Please Note
Department & University Policies for 2020-2021

The University expects all students to take responsibility for their own Academic Programs. Students should check their registration to ensure they are enrolled in the correct courses.

Academic Rights and Responsibilities: Students should be familiar with their “Academic Rights and Responsibilities” as outlined [here](#) in the Western Academic Calendar. Claiming that “you didn’t know what to do” is not an acceptable excuse for not following the stated procedures.

Guidelines and Policies for Students are posted online in the current Western Academic Calendar at <http://westerncalendar.uwo.ca>. Undergraduate information for the Faculty of Social Science can be found at: <https://www.ssc.uwo.ca/undergraduate/index.html> and for the Department of Economics at: <https://economics.uwo.ca/undergraduate/index.html>.

Rules of Conduct for Examinations: Students are expected to know the university’s Rules of Conduct for Examinations, available [here](#).

Cheating and Academic Offences: Students are responsible for understanding what it means to “cheat.” The Department of Economics treats cheating and other academic offences very seriously and will investigate any suspect behavior. Students found guilty will incur penalties that could include a failing grade or being barred from future registration in Economics courses or programs. The University may impose further penalties such as suspension or expulsion.

Plagiarism: Plagiarism is an academic offence. Students must write their essays and assignments in their own words. Ideas/passages taken from another author must be referenced with footnotes or citations and acknowledged with quotation marks where appropriate. Western University uses software to check for plagiarism and students may be required to electronically submit their work. Those found guilty will be penalized as noted in point 3. See Scholastic Discipline for Undergraduate Students [here](#) in the Western Academic Calendar.

Academic Appeals: Students should refer to the Student Academic Appeals section [here](#) in the Western Academic Calendar. Please note the relevant deadlines.

Department Appeals Procedures: The Department will not consider an appeal unless an attempt has been made to settle the matter with the instructor first. Students who remain dissatisfied with the outcome may submit a written appeal to the Undergraduate Director in Economics, stating the reasons for their appeal. Information on the Department of Economics’ appeals procedure and the appeals form are available [here](#).

Systematic Adjustments: Systematic adjustments of class grade distributions (either up or down) can occur in Economics courses. The systematic adjustment of a class grade distribution is **not** grounds for an appeal.

Add/drop deadlines:

Deadline to add a second term half course:

Tuesday January 19, 2021

Deadline to drop a second term half course:

Sunday March 14, 2021

Oversleeping or Misreading the Exam Schedule: Faculty of Social Science policy states that oversleeping or misreading the exam schedule is NOT grounds for a makeup. This rule applies to all exams in the Department of Economics.

End of Term Travel: Students must book travel arrangements AFTER final exam dates have been posted; travel is not an acceptable excuse for absence from a final exam.

Rewriting Exams and Retroactive Reweighting are NOT Permitted: Students who proceed to write a test or examination must be prepared to accept the mark. Rewriting tests or examinations, or retroactive reweighting of marks, is **not** permitted.

Accommodation Policies: Students with disabilities should work with Accessible Education (formerly SSD), which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The accommodation policy can be found here: [Academic Accommodation for Students with Disabilities](#).

Academic Consideration for Missed Assessments/Exams due to Student Absence: Students will have up to two (2) opportunities during the regular academic year to receive academic consideration if they self-report a missed assessment using the online portal, provided the following conditions are met: the assessment is missed due to an absence of no more than 48 hours in duration, and the assessment for which consideration is being sought is worth 30% or less of the student's final grade. Students are expected to contact their instructors within 24 hours of the end of the period of the self-reported absence, unless noted otherwise on the syllabus. Students are not able to use the self-reporting option in the following circumstances:

- for exams scheduled by the Office of the Registrar (e.g., December and April exams)
- absence of a duration greater than 48 hours
- assessments worth more than 30% of the student's final grade
- if a student has already used the self-reporting portal twice during the academic year

If the conditions for a Self-Reported Absence are *not* met, students will need to provide a Student Medical Certificate (SMC) if the absence is medical or provide appropriate documentation if there are compassionate grounds for the absence in question. Students are encouraged to contact their Faculty academic counselling office for more information about the relevant documentation. It is strongly recommended that students notify the instructor as soon as possible, ideally before the assessment, when they become aware of an absence. University policy is that students must communicate with their instructors no later than 24 hours after the end of the period covered by the SMC or immediately upon their return from their documented absence. Failure to follow University policy and procedures may result in denial of academic accommodation and a grade of zero.

Individual instructors are not permitted to receive documentation directly from a student, whether in support of an application for consideration on medical grounds or for other reasons. **All required documentation for absences that are not covered by the Self-Reported Absence Policy must be submitted to the Academic Counselling office of a student's Home Faculty.**

For Western University policy on Consideration for Student Absence, see:
[Policy on Academic Consideration for Student Absences - Undergraduate Students in First Entry Programs.](#)

For the Student Medical Certificate (SMC), see:
http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf.

Religious Accommodation: Students should consult the University's list of recognized religious holidays and should give reasonable notice in writing, prior to the holiday, to the Instructor and an Academic Counsellor if their course requirements will be affected by a religious observance. Additional information is given in the [Western Multicultural Calendar](#).

Policy Regarding Class Attendance and Engagement: If the instructor deems a student's attendance or engagement in the class to be unsatisfactory, that student may be prohibited from writing the final examination. Examples of unsatisfactory class engagement include frequent absences from an in-person or synchronous online class, lack of assignment submissions, and inadequate use of online course materials. Instructors who intend to make use of this policy will notify the student in advance.

Statement on Mental Health and Support Services: Students under emotional/mental distress should visit http://uwo.ca/health/mental_wellbeing/ for more information and a complete list of resources on how to obtain help.