



Mode: Online
Office Hrs: After class & by appt; Zoom
<https://us02web.zoom.us/j/3733945591>
Phone: 863-874-8525

E-mail: jdewey@floridapoly.edu
Class Mtg: MWF 2-2:50; Zoom
Website: Canvas

Course Objective

Welcome! Our specific objective is to connect economic theory to policy analysis to build a solid foundation for benefit-cost analysis of private, non-profit, and public projects. Our overarching objective is for students to hone the ability to apply economic analysis to structure critical thinking about decision making under constraints and with imperfect information.

Catalog Course Description

This course discusses the benefit-cost analysis of business and public projects, programs, and regulations. Students will be provided opportunities to conduct a benefit-cost analysis and determine if a public benefit-cost analysis is accurate.

Prerequisites: Principles of Microeconomics (ECO 2023)

Communication/Computation Skills Requirement (6A-10.030): No

Textbook

Boardman, Greenberg, Vining, & Weimer. 2018. *Cost-Benefit Analysis: Concepts and Practice*. 5th Edition. Cambridge University Press. ISBN: 9781108401296

Class Delivery

- I will record lectures several days before class meetings—about 25 minutes for every 50-minute hour of instruction. You should complete the relevant assigned reading and watch the day's lectures before live class meetings. Take good notes and write down questions—you will need both the notes and the questions them later for graded course components.
- After completing the reading and watching the lectures, post questions and comments to the appropriate discussion topic in canvas. As appropriate, respond to classmates' questions with answers, comments, or follow up questions. Posting links to related articles you are interested in works too, as long you explain why you are interested in it and how it relates to the material. This is required and counts toward your grade.
- Class meetings are for answering questions from the discussion board, follow up questions, discussion, and working examples. Attendance is expected and counts towards participation credit. Meetings will be recorded for later reference
- Class meetings and office hours are in my meeting space on Zoom. I believe Zoom offers several distinct advantages for this type of class so I have paid for my own Zoom Pro subscription which we will use (free for you). You should install the zoom client, not just use the online meeting capability. Here is the link: <https://us02web.zoom.us/j/3733945591>. Alternatively, open zoom, click join meeting, and use meeting ID: 373 394 5591.
- Have your camera on so we can see one another as we participate in discussion. If you do not have access to a working web cam, schedule a meeting with me to discuss the matter.

Degree Program and Course Learning Outcomes and Alignment

Course Outcomes	Program (DS / BA)		
	1. Apply current (data science/business analytics) concepts, techniques & practices to solve (complex/business) problems.	2. DS: Analyze a given data science problem and formulate a solution in terms of the datasets needed, the techniques required or the technologies to be utilized.	2. BA: Analyze a given business problem using appropriate analytics techniques to generate insights and solutions. 3. Communicate effectively insights, analysis, conclusions, & solutions to a diverse audience.
1. Explain and use the concepts of willingness to pay, cost, consumer and producer surplus, discounting, present value, & expected value.	X		
2. Determine when a Benefit-Cost Analysis may be performed in a meaningful way.		X	
3. Identify elements that may compromise the validity of the Benefit-Cost Analysis.	X	X	
4. Perform Benefit-Cost Analysis as completely as possible under relevant assumptions.	X	X	
5. Effectively communicate the results of a Benefit-Cost Analysis.			X

Graded Coursework

Exercises (15%) After each meeting I will assign exercises from the end of the corresponding chapters due one week later—about one or two per class and three to five per week. Sometimes I will write original problems to supplement those in the book. Exercises engage you with challenging material to facilitate learning. Expect to invest significant time in them. You are encouraged to work with other students. However, if you don't push yourself to work them on your own first, you will cheat yourself of the best chance to learn the material.

Analyses (15%) i) A highly structured critical analysis of a benefit-cost analysis provided to you (2-5 pages, 4%). ii) A critical analysis of a benefit-cost analysis provided to you where you must decide the appropriate structure (2-5 pages, 4%). iii) A plan for a benefit cost analysis of a given topic. This must include enumeration of possible impacts, consideration of standing, a plan to realistically obtain data to quantify impacts, a method to quantify and monetize impacts, and anticipation of distributional concerns (5-10 pages, 7%).

Midterm Exam (15%) The midterm exam will be at the normal class meeting time on Friday October 9th so I can grade it before the midterm grade deadline.

Course Portfolio (20%) Comprising five neat and professionally organized sections.

- 1) Notes from readings and lectures
- 2) All exercises, as completed. Also, an analysis of your mistakes prepared after the solutions are posted. Explain where you went wrong and why you went wrong in that way.

- 3) The three Analyses as submitted. Also, revised (corrections, additions, or otherwise) in response to feedback.
- 4) The midterm exam as competed. Also, an analysis of your mistakes prepared after the solutions are posted. Explain where you went wrong and why you went wrong in that way. The midterm version of this counts for 3 of the 15 points. The final version is due the day of the final exam. Why? Preparing it should be good preparation for the exam, having prepared it you should study it, and studying it will lead you to spot places you can improve it.

Final Exam (20%) The final exam will occur at the assigned time (TBA) during finals week December 7th–11th. To reward improvement and prevent a bad day from unduly influencing your grade, the final counts in place of the midterm if it is higher.

Participation (15%) Depends on regular attendance and engagement including asking questions, responding when called upon, being attentive and required discussion board participation.

Grading

Grades for all coursework will be assigned according to the following criteria.

Grade	Points	Criteria
P	5.0	Exceptionally rare quality far above and beyond all expectations. Mistake free. Explained & supported completely. Extremely neat. Organization crystal clear. Writing excellent. Looks & reads as if prepared by the leading expert in the area and professionally edited & formatted. The all but unachievable ideal of perfection.
A	4.0	Demonstrates mastery. Complete. Correct approach. Possibly minor errors in arithmetic. No conceptual errors. Fully explained and supported. Neat and well organized with clear exposition. Grammatical errors minor.
B	3.0	Demonstrates proficiency but short of mastery. Complete or nearly so. Approach is generally correct, though there may be small conceptual errors. There may be significant mathematical errors if they do not reveal additional conceptual flaws. Explanation and support are clear and reasonable, if not complete or fully correct. Neatness, organization and exposition allow the answer to be easily understood.
C	2.0	Demonstrates proficiency with the most important components but otherwise incorrect or incomplete. Explanation & support incomplete or incorrect. Neatness, organization and exposition allow the answer to be understood with minimal effort.
D	1.0	Reasonable effort but does not demonstrate proficiency. Approach, explanation, & support show some relation to the question but little is correct. Neatness, organization & exposition allow the answer to be understood.
F	0.0	No attempt, unresponsive, nearly all wrong, or too messy to follow.

*Partial credit between letter grades will be given in tenths of a point.

Exams: Each question will be graded using these criteria and points averaged to determine the overall grade. Due to the time constraint, neatness and writing quality will be judged leniently.

Exercises: Each question will be graded using these criteria and points will be averaged across questions to determine the overall grade. Since you have time, neatness, organization, and writing quality are judged somewhat stringently. Since exercises are intended to facilitate learning, not evaluate learning, completeness and correctness are judged leniently.

Analyses and Portfolio: These will be graded as a whole. Since you have time and we will have covered relevant material, completeness, correctness, neatness, organization, and exposition are all judged stringently.

Tentative Schedule of Assignment and Exam Dates

Assignment or Exam	Due Date
Exercises assigned continuously (see above)	One week after assigned
Analysis #1	Friday September 25
Midterm Exam	Friday October 9
Analysis #2	Friday October 16
Midterm Class Portfolio	Friday October 23
Analysis #3	Monday November 23
Final Class Portfolio	TBA
Final Exam	TBA

Course Grades

Grades will be averaged within each assignment category. Category averages will be averaged using the weights specified above. Final course grades will be determined by this weighted average according to the table to the right. [Grading policy](#).

Course Grade	Weighted Average Points	
	At least	Less than
A	3.833	
A-	3.500	3.833
B+	3.167	3.500
B	2.833	3.167
B-	2.500	2.833
C+	2.167	2.500
C	1.833	2.167
C-	1.500	1.833
D+	1.167	1.500
D	0.833	1.167
D-	0.500	0.833
F		0.500

Make-up Policy

If the midterm is missed, the final exam will automatically count in its place. If the final is missed a make-up may be taken **ONLY** with a documented excuse recognized by university policy. Work conflicts **ARE NOT** a valid excuse. Let your employer know now that you must be available to take exams at the announced times. I accept late assignments with a penalty that is minimal at first, increases with lateness, and is 50% for work turned in after solutions are released. [Attendance policy](#).

Topic Outline and Tentative Schedule

1. Introduction (Chapters 1-2; Exercises * 1.1, 1.3, 2.4, 2.6, 2.7; Week 1)
 - 1.1. Definition of net benefits
 - 1.2. Perspectives: Analysts, Guardians, Interest Group Politics
 - 1.3. Standing
2. Microeconomic Foundations (Chapter 3; Exercises 3.1-2, Supplemental; Weeks 2-4)
 - 2.1. Efficiency and highest valued use
 - 2.1.1. Willingness to Pay
 - 2.1.2. Opportunity Cost
 - 2.1.3. Pareto Efficiency
 - 2.1.4. Kaldor–Hicks efficiency
 - 2.1.5. BCA shortcomings
 - 2.2. Demand, Willingness to Pay, Consumer Surplus
 - 2.3. Estimates using elasticity of demand, slope (Chapters 4 and 8)
 - 2.4. Supply, Producer Surplus, Factor Surplus
 - 2.5. Government budget, taxation, excess burden
3. Primary impacts in output markets (Chapter 5; Exercises 5.1-2, Supplemental; Week 5)
 - 3.1. Willingness to Pay in Efficient Primary Markets
 - 3.1.1. Price unchanged
 - 3.1.2. Price changed
 - 3.2. Willingness to Pay in Distorted Markets
 - 3.2.1. Price unchanged
 - 3.2.2. Price changed
4. Primary impacts in input markets (Chapter 6; Exercises 6.2, 6.3, Supplemental; Week 6)
 - 4.1. Opportunity cost in undistorted markets
 - 4.1.1. Price unchanged
 - 4.1.2. Price changed
 - 4.2. Opportunity cost in distorted markets
 - 4.2.1. Price unchanged
 - 4.2.2. Price changed
5. Secondary Markets (Chapter 7; Exercises 7.1-3; Week 7-8)
 - 5.1. Efficient secondary markets
 - 5.1.1. Price unchanged
 - 5.1.2. Price changed
 - 5.2. Distorted Secondary Markets
 - 5.3. Local Perspective on Secondary Market Effects
 - 5.4. Multiplier effects
6. Discounting (Chapter 9; Exercises 9.1, 9.2, 9.4, Supplemental; Week 8-10)
 - 6.1. General definition and formula
 - 6.2. Annuity formulae
 - 6.3. Applications
 - 6.3.1. Time value of money
 - 6.3.2. Inflation
 - 6.3.3. Growth
 - 6.3.4. Depreciation
 - 6.3.5. Obsolescence
 - 6.4. Non-identical timeframes
 - 6.4.1. Roll Over Method
 - 6.4.2. Equivalent Annual Net Benefit

- 6.5. Long lived projects and horizon value
- 6.6. Sensitivity analysis
7. Social Discount Rate (Chapter 10, Week 10)
 - 7.1. Alternative safe interest rates
 - 7.2. Social consumption smoothing
 - 7.3. Optimal growth rate approach – veil of ignorance
8. Uncertainty and Information Value (Chapter 11; Exercises 11.1-3, Supp.; Weeks 11-13)
 - 8.1. Contingencies
 - 8.2. Expected value and expected net benefit
 - 8.3. Attitudes toward risk and risk pooling
 - 8.4. Decision Problems as Normal Form Games Against Nature
 - 8.4.1. Uncertainty with Impacts over Time
 - 8.4.2. Expected net present value
 - 8.4.3. Decisions up front
 - 8.4.4. Decisions at different points in time
 - 8.4.4.1. Decision Tree and backward induction
 - 8.4.4.2. Quasi-Option Value or Real Option Value
 - 8.5. Sensitivity Analysis
 - 8.6. Value of Information
9. Option Price and Option Value (Chapter 12, Week 13-14)
10. Existence Value (Chapter 13, Week 14)
11. Topics of further Interest, Catch Up, Review (Week 15)
 - * Exercises will be adjusted to change depending upon what I think the class needs to work on most.

Revisions to the Syllabus

The instructor reserves the right to correct typos or other errors in the syllabus and to make adjustments reasonably needed to maintain the quality and function of the course.

Academic Support

- Students can access the Florida Polytechnic University Library through the University website and Canvas, on and off campus. Students may direct questions to the Academic Success Center or by e-mail to success@floridapoly.edu or library@floridapoly.edu.
- The Academic Success Center, located in the IST and at ASC East, provides a range of services. Students may direct questions to success@floridapoly.edu.

University Policies

- [Academic Integrity](#). All students must commit to the highest ethical standards in completion of all academic pursuits and endeavors, whether in classroom or online environments.
- [Covid-19 Statement](#) Regardless of the mode of course delivery, all Florida Poly students are asked to make a Campus Commitment demonstrating respect and consideration for themselves or others, and for the people they care about. This Campus Commitment includes monitoring one's health and seeking medical care when appropriate; wearing face-coverings and respecting social-distancing, especially in the classroom and in gatherings; washing one's hands frequently (and when not possible using hand-sanitizer); following medical guidance; and participating in keeping shared spaces clean. If you are experiencing any symptom(s) of COVID-19 outlined by the CDC, you must stay home or in your residence hall room and immediately contact the associate director of campus wellness management at 863-874-8599 or email care@floridapoly.edu.

Basic rules for in the classroom, IST, and Campus:

1. You MUST have a face-covering.
 2. Leave the furniture on its correct floor markings, or if it is moved, please return it to those markings.
 3. Whenever possible, clean your space with a sanitizing wipe before you start and when you are finished with class.
 4. Do not remove sanitizing wipes or hand sanitizers from their set locations—they are put there for everyone.
 5. Follow directional signs throughout the buildings and respect appropriate social-distancing.
 6. Study hard and engage with all of your courses!
- Reasonable Accommodations: Florida Polytechnic University is committed to assisting students with disabilities and offering reasonable accommodations to those with documented eligibility. The Office of Disability Services (ODS) coordinates accommodations for students with disabilities in accordance with the ADA Amendments Act of 2008 (ADAAA), the Americans with Disabilities Act of 1990 (ADA), and Section 504 of the Rehabilitation Act of 1973. Reasonable accommodations are determined on an individual basis through an interactive process between you, ODS, and your instructor(s). If you have already registered with ODS, please ensure that you have requested an accommodation letter for this course and communicate with your instructor about your approved accommodations at your earliest convenience. If you are not registered with ODS but believe you have a temporary health condition or permanent disability requiring an accommodation, please contact ODS as soon as possible: DisabilityServices@floridapoly.edu, (863)874-8770, ASC East [ODS website](http://www.floridapoly.edu): www.floridapoly.edu > Student Affairs > Health Wellness > Disability Services
 - Accommodations for Religious Observances, Practices and Beliefs
 - Title IX: Florida Polytechnic University is committed to ensuring a safe, productive learning environment on our campus that prohibits sex discrimination and sexual misconduct, including sexual harassment, sexual assault, dating violence, domestic violence and stalking. It is important for you to know resources are available if you or someone you know needs assistance. You may speak to your professor, but your professors have an obligation to report the incident to the Title IX Coordinator. It is an educational goal that you feel able to share information related to your life experiences in classroom discussions and in one-on-one meetings. However, it is requirement for university employees to share information with the Title IX Coordinator regarding disclosure. However, please know that your information will be kept private to the greatest extent possible. You will not be required to share your experience. If you want to speak to someone who is permitted to keep your disclosure confidential, please seek assistance from the Florida Polytechnic University [Ombuds Office](#), BayCare's Student Assistance Program, 1-800-878-5470 and locally within the community at [Peace River Center](#), 863-413-2707 (24-hour hotline) or 863-413-2708 to schedule an appointment.