

San José State University (10/22/2015)
Econ 108 / Envs 108, *Cost-Benefit Analysis*, Section 1, FA 15

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Office Hours:	Tuesday and Thursdays, 12-1P.M., and by appointment, in DMH 131
Location/ Days/Time:	DMH 358 / Tuesdays & Thursdays / 5:00-6:15p.m
Prerequisites:	Econ 1B and Econ 3 or Stat 95, or instructor consent

Faculty Web Page and MYSJSU Messaging

Copies of the syllabus, homework assignments, etc. may be found on Canvas. See my Econ 1B syllabus for information on accessing Canvas.

Course Description

Theory and practice of cost-benefit analysis applied to various topics including public projects and environment. Welfare foundations of CBA, valuation of goods (such as clean air, wilderness, and sports arenas), discounting future values and cost.

Course and Program Learning Objectives (CLOs and PLOs)

Emphasizes *quantitative methods* (ECON PLO3 / ENV5 PLO2) & *communication* (ECON PLO5 / ENV5 PLO5)

By the end of this course, students will be able 1.) to explain the reason for using CBA, its history of use in the United States and around the world, and to discuss current controversies surrounding it, and 2.) to describe and use the tools of applied welfare economics, relevant numerical methods (e.g., inflation adjustments, present value calculations) and statistical and data analysis methods (survey design, regression) to answer technical questions related to CBA, and 3.) to produce an appropriate recommendation concerning a policy or project, as well as to evaluate recommendations made by others. CLOs 1-3 will be assessed through in-class exams and a term paper.

Required Textbook

Boardman, Anthony E. et al. *Cost-Benefit Analysis: Concepts and Practice*. Prentice Hall. 4th edition.

Recommended Textbook

Angrist, J. D. and Pischke, J. 2014. *Mastering Metrics*, Princeton University Press, Princeton, N.J.
(You can download the Introduction and Chapter 1 here: <http://press.princeton.edu/titles/10363.html>)

Required Computer Software

Students must install a statistical software program (such as Gretl or Stata), and a spreadsheet (either MS Excel or Open Office Calc) on their personal computer to complete assignments for this course.

Important Note Concerning Four-Unit Classes

This is now a four-unit course with an introductory statistics prerequisite. This will enable us to cover more and deeper material than in previous semesters. Please be prepared for an appropriately faster-paced course.

Course Outline

Date	Topic of lecture	Required Readings
20-Aug	Intro to Cost-Benefit Analysis, and Transportation CBA Case Studies	
25-Aug	Case Studies: Rail Transit and K-5 Class Size	Guerra (2009) and Krueger (2003)
27-Aug	The Decision Maker & the Analyst; Bureaucratic & Political “Lenses”	BGVW, Ch 1
1-Sep	Conceptual and Ethical Foundations of Cost-Benefit Analysis	BGVW, Ch 2, and watch: https://www.youtube.com/watch?v=uswcIzbUIYY
3-Sep	Applied Welfare Economics (AWE)	BGVW, Ch 3
8-Sep	...AWE continued...	
10-Sep	...AWE continued...	BGVW, Ch 4
15-Sep	...AWE continued...	
17-Sep	Advanced Topics in AWE: Secondary Markets and Indirect Effects	BGVW, Ch 5 (skim)
22-Sep	Discounting, Time Horizons, Inflation, and Decision Rules	BGVW, Ch 6 (& re-read pp.32-34)
24-Sep	Discounting, etc., (continued)	
29-Sep	Dealing with Risk: Sensitivity Analysis	BGVW, Ch 7 (pp.167-87&196-97)
1-Oct	Review for Midterm.	
6-Oct	Review for Midterm. PROBLEM SETS	BGVW, Ch 1-7 (assigned pages)
8-Oct	MIDTERM	
13-Oct	Predicting and Monetizing Impacts OUTLINE	BGVW, Ch 11
15-Oct	Experiments and Quasi Experiments	BGVW, Ch 12
20-Oct	Case Studies	(from Ch 12)
22-Oct	Estimation of Demand Curves	BGVW, Ch 13
27-Oct	Statistics review: Hypothesis Tests	Angrist and Pischke, Ch 1 Appendix
29-Oct	Statistics review: Difference in Means Tests	Angrist and Pischke, Ch 1 (all)
3-Nov	Multiple Regression, Statistical Software Packages & the Swimming Pool Problem	BGVW, pp. 338-339 & Ch 13 Appendix
5-Nov	STATS QUIZ	AP Ch 1 and BGVW Ch 13
10-Nov	Valuing Impacts with Observational Data: The Hedonic Pricing Method	BGVW, Ch 14 (pp. 341-357)
12-Nov	Contingent Valuation: The Survey Method	BGVW, Ch 15
17-Nov	Shadow Prices from Secondary Sources (Benefits Transfer)	BGVW, Ch 16
19-Nov	Student Presentations	
24-Nov	Student Presentations	
26-Nov	Campus Closed (Thanksgiving.)	
1-Dec	Student Presentations	
3-Dec	Student Presentations	
8-Dec	Review for Final Exam PROBLEM SETS	
11-Dec	FINAL EXAM @ 2:45p.m. TERM PAPER @ 11:59pm	BGVW, Ch 11-16 (assigned pages)

Additional References

Guerra, E. 2011. “Valuing Rail Transit: Comparing Capital and Operating Costs with Consumer Benefits.” *Transportation Research Record: Journal of the Transportation Research Board*, No. 2219, pp. 50–58.

Krueger, A. (2003). Economic considerations and class size. *The Economic Journal*, 113, 34–63.

Grading and Classroom Policy

The grading scale is: 60-62, D-, 62-68, D, 68-70, D+, 70-72, C-, 72-78, C, 78-80, C+, 80-82, B-, 82-88, B, 88-90, B+, 90-92, A-, 92-98, A, 98-100, A+.

I generally don’t allow makeup exams unless there is sufficient notice and a very well justified and documented reason. Please talk to me if you wish you use a laptop during class. Finally, food that emits odor is not allowed.

Assignments

There will be a midterm and a final worth 25 points each, a statistics quiz worth 5 points, four Problem Sets worth 2.5 points each, random Pop Quizzes worth a total of 10 points (students can miss one without penalty), and a Term Paper and a Presentation (worth 25 points overall three parts, 5+10+10) that is associated with the Term Paper. Points on all these assignments sum to 100.

Assignment	Points	Due Dates
Midterm and Final	50	October 8 th and December 11 th (25 points each)
Statistics Quiz	5	November 5 th
Problem Sets	10	October 6 th and December 8 th
Pop Quizzes	10	unannounced
Term Paper and Presentation	25	Outline 10/13, Presentation 11/19-12/3; Papers on 12/11

Assignment Details

Midterm and Final Exams will contain questions that look similar to those given on Problem Sets. **Problem Sets** will contain questions that look similar to end-of-chapter questions from the textbook. The **Statistics Quiz** will be multiple choice. A practice quiz will be distributed in class. **Pop Quizzes** are designed to test whether students have read and comprehended required readings before coming to class. All students must read required readings, listed in the course schedule, before coming to class. Finally, the **Term Paper and Presentation** are designed to help students synthesize all CBA tools discussed in the class to produce an original analysis on a topic of contemporary interest. Students have two options for completing these assignments. First, students may use the *benefits transfer* methodology, exemplified in the case studies from week 2 (Guerra, 2011 and Krueger, 2003). Papers using the benefits transfer methodology must contain a careful review of the related empirical literature. Alternatively, a student may use *the hedonic method*, *contingent valuation method*, or may *estimate a demand curve* for use in a CBA. Papers using methodologies from this second group must contain either a statistical analysis (i.e. data collection and model estimation,) or survey design (with preliminary implementation and discussion of results.) Finally, on four meetings between 11/19-12/3 students will present their CBA project to the class. Students will then revise their Rough Drafts based on comments received on the presentation. More instructions will be distributed in class.

University Policies

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester's [Catalog Policies](http://info.sjsu.edu/static/catalog/policies.html) section at <http://info.sjsu.edu/static/catalog/policies.html>. Add/drop deadlines can be found on the current academic year calendars document on the [Academic Calendars webpage](http://www.sjsu.edu/provost/services/academic_calendars/) at http://www.sjsu.edu/provost/services/academic_calendars/. The [Late Drop Policy](http://www.sjsu.edu/aars/policies/latedrops/policy/) is available at <http://www.sjsu.edu/aars/policies/latedrops/policy/>. Students should be aware of the current deadlines and penalties for dropping classes. Information about the latest changes and news is available at the [Advising Hub](http://www.sjsu.edu/advising/) at <http://www.sjsu.edu/advising/>.

Academic integrity

Your commitment as a student to learning is evidenced by your enrollment at San Jose State University. The [University Academic Integrity Policy S07-2](http://www.sjsu.edu/senate/docs/S07-2.pdf) at <http://www.sjsu.edu/senate/docs/S07-2.pdf> requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The [Student Conduct and Ethical Development website](http://www.sjsu.edu/studentconduct/) is available at <http://www.sjsu.edu/studentconduct/>. Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include your assignment or any material you have submitted, or plan to submit for another class, please note that SJSU's Academic Integrity Policy S07-2 requires approval of instructors.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. [Presidential Directive 97-03](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) at http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf requires that students with disabilities requesting accommodations must register with the [Accessible Education Center](http://www.sjsu.edu/aec) (AEC) at <http://www.sjsu.edu/aec> to establish a record of their disability.