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<b>Office Hours:</b>	Tuesdays and Thursdays, 4-4:15p.m. & 6-6:15p.m., & by appointment
<b>Location/ Days/Time:</b>	DMH 166 / Thursdays / 6:30-9:15p.m
<b>Prerequisites:</b>	Econ 1B and Econ 3 or Econ 2c, or instructor consent

### Faculty Web Page and MYSJSU Messaging

Copies of the syllabus, homework assignments, etc. may be found on 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 / ENVS PLO2) & *communication* (ECON PLO5 / ENVS 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, 2.) to differentiate between CBA and related techniques such as Cost-Effectiveness Analysis (CEA) and Economic Impact Analysis (EIA); 3.) 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 and Recommended Textbooks

The primary text for this class is:

Fuguitt, D., & Wilcox, S. J. (1999). *Cost-benefit analysis for public sector decision makers*. Greenwood Publishing Group.

>> This title is available through the SJSU library as an eBook with unlimited User Access so you all should be able to access it for free. In my lectures I will draw material from one additional source which is recommended:

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

A student wanting a deeper treatment of CBA theory and methods should acquire and study this text as well.

### Required Computer Software

Students must use a spreadsheet (preferably MS Excel) and either the R or Stata statistical software programs. For information on installing R see Sundstrom, William A. and Michael J. Kevane. *Guide to R: Data analysis for Economics*, available as a free PDF document (at <http://rpubs.com/wsundstrom/home>).

## 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.

## 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. Food that emits externalities is not allowed.

## Assignments

There will be a midterm and a final worth 20 points each, two Problem Sets worth 5 points each, occasional homework and in-class quizzes worth 25 points, a Term Paper (20 points) & Presentation (5 points).

Assignment	Points	Due Dates
Midterm and Final	40	October 16 and December 18 (20 points each)
Problem Sets	10	October 9 and December 11
Homework / Quizzes	25	Announced in class
Presentation	5	November 27 or December 4
Term Paper	20	Outline 10/16, Draft 11/27, Final Paper on 12/18

## Assignment Details

**Midterm and Final Exams** will contain questions similar to those given on Problem Sets. **Problem Sets** will contain questions similar to practice questions distributed in class and on Canvas. The **Term Paper and Presentation** will help students synthesize all CBA tools discussed in the class to produce an original analysis on a topic of contemporary interest. **Homework and quizzes** ensure students make continuous progress.

## Term Paper

Students have two options for completing this assignment. First, students may use the *benefits transfer* methodology (e.g. Guerra, 2011 and Krueger, 2003). Alternatively, a student may use *the hedonic method* (Ihlandfeldt and Taylor, 2004) *contingent valuation method* (Loomis et al., 2000) or may *estimate a demand curve* (Latta et al. 2015). Papers using methodologies from this second group must contain either a statistical analysis (i.e. data collection and model estimation,) or survey design (with discussion of plan for Institutional Review Board clearance.) Finally, during the two meetings on 11/15 & 11/29 students will present their CBA project to the class. Students will then revise their Rough Drafts based on comments received.

A detailed rubric for this project will be announced in class. No figures may be copied or pasted from any other document; you must create all tables and figures yourself. Citations must be in APA format. In terms of length, the paper should have five sections, each section about five paragraphs, & each paragraph about five sentences.

This semester, this class will be collaborating for the first time with CommUniverCity, a unit of SJSU that facilitates community-based research. Our collaboration will center around Viva Calle, an Open Streets event, which will take place in San Jose on Sunday, September 23, 2018 from 10am – 3pm. The event will close around six miles of streets, from downtown San Jose south, and will feature a 5K run, outdoor entertainment, and so on. The studies by Chaudhuri and Zieff (2015), Montes et al. (2012) and Zieff et al. (2016) assessed past Open Streets events. All students will complete several homework assignments related to these studies and the Viva Calle event; students who are interested in writing their term papers on an Open Streets topic will have the opportunity to help field surveys and collect data before, during and after the event, to write draft questions for future survey instruments, and to present their research at City Hall.

Students are not limited to Open Streets topics. However, the topics are limited to those listed below, and at least one of the papers referenced below *must* be incorporated in the term paper. Finally, students interested in homelessness and housing topics may have an opportunity to work on another CommUniverCity project related to transitional housing for homeless on land owned by the State of California.

## ***Scholarly References for Term Papers, Homework and In-Class Quizzes***

### **Public Transit**

Guerra, E. (2011). Valuing rail transit: comparing capital and operating costs with consumer benefits. *Transportation Research Record*, 2219(1), 50-58.

Holian, M. & McLaughlin, R. (2016). "Benefit-Cost Analysis for Transportation Planning and Public Policy: Towards Multimodal Demand Modeling" *Mineta Transportation Institute Publications*, San Jose, CA.

### **Traffic Safety**

Hooke, A., Knox, J., & Portas, D. (1996). *Cost benefit analysis of traffic light & speed cameras*. London, UK: Home Office, Police Research Group.

### **Open Streets**

Chaudhuri, A., & Zieff, S. G. (2015). Do open streets initiatives impact local businesses? The case of Sunday Streets in San Francisco, California. *Journal of Transport & Health*, 2(4), 529-539.

Montes, F., Sarmiento, O. L., Zarama, R., Pratt, M., Wang, G., Jacoby, E. ,... & Michel, G. (2012). Do health benefits outweigh the costs of mass recreational programs? An economic analysis of four Ciclovía programs. *Journal of Urban Health*, 89(1), 153-170.

Zieff, S. G., Chaudhuri, A., & Musselman, E. (2016). Creating neighborhood recreational space for youth and children in the urban environment: Play (ing in the) Streets in San Francisco. *Children and youth services review*, 70, 95-101.

### **Air Pollution**

Chay, K. Y., & Greenstone, M. (2005). Does air quality matter? Evidence from the housing market. *Journal of political Economy*, 113(2), 376-424.

### **Hazardous Waste**

Ihlanfeldt, K. R., & Taylor, L. O. (2004). Externality effects of small-scale hazardous waste sites: evidence from urban commercial property markets. *Journal of environmental economics and management*, 47(1), 117-139.

### **Environmental Quality**

Iovanna, R., & Griffiths, C. (2006). Clean water, ecological benefits, and benefits transfer: a work in progress at the US EPA. *Ecological Economics*, 60(2), 473-482.

Kahn, M. E. (1996). The efficiency and equity of vehicle emissions regulation: Evidence from California's random audits. *Eastern Economic Journal*, 22(4), 457-465.

Loomis, J., Kent, P., Strange, L., Fausch, K., & Covich, A. (2000). Measuring the total economic value of restoring ecosystem services in an impaired river basin: results from a contingent valuation survey. *Ecological economics*, 33(1), 103-117.

## **Education (K-12)**

Hanushek, E. A. (2003). The failure of input-based schooling policies. *The economic journal*, 113(485), F64-98.

Krueger, A. B. (2003). Economic considerations and class size. *The Economic Journal*, 113(485), F34-F63.

## **Education (preschool)**

Karoly, L. A. (2016). The economic returns to early childhood education. *The Future of Children*, 37-55.

## **Alcohol and Drugs**

Anderson, P., Chisholm, D., & Fuhr, D. C. (2009). Effectiveness and cost-effectiveness of policies and programmes to reduce the harm caused by alcohol. *The lancet*, 373(9682), 2234-2246.

Irwin, A., Jozaghi, E., Bluthenthal, R. N., & Kral, A. H. (2017). A cost-benefit analysis of a potential supervised injection facility in San Francisco, California, USA. *Journal of Drug Issues*, 47(2), 164-184.

## **Public Housing**

Carlson, D., Haveman, R., Kaplan, T., & Wolfe, B. (2011). The benefits and costs of the Section 8 housing subsidy program: A framework and estimates of first-year effects. *Journal of Policy Analysis and Management*, 30(2), 233-255.

## **Homelessness**

Culhane, D. P., Metraux, S., & Hadley, T. (2002). Public service reductions associated with placement of homeless persons with severe mental illness in supportive housing. *Housing policy debate*, 13(1), 107-163.

Martinez, T. E., & Burt, M. R. (2006). Impact of permanent supportive housing on the use of acute care health services by homeless adults. *Psychiatric Services*, 57(7), 992-999.

## **Value of Life**

Mrozek, J. R., & Taylor, L. O. (2002). What determines the value of life? A meta-analysis. *Journal of Policy Analysis and Management*, 21(2), 253-270.

## **Sports**

Noll, R. G., & Zimbalist, A. (Eds.). (2011). *Sports, jobs, and taxes: The economic impact of sports teams and stadiums*. Brookings Institution Press.

Zimbalist, A. (2016). *Circus maximus: The economic gamble behind hosting the Olympics and the World Cup*. Brookings Institution Press.

## **Immigration**

Ottaviano, G. I., & Peri, G. (2006). The economic value of cultural diversity: evidence from US cities. *Journal of Economic geography*, 6(1), 9-44.

West, D. M. (2011). The costs and benefits of immigration. *Political Science Quarterly*, 126(3), 427-443.

## **Estimation of Demand Curves**

Latta, G. S., Plantinga, A. J., & Sloggy, M. R. (2015). The effects of internet use on global demand for paper products. *Journal of Forestry*, 114(4), 433-440.

## Tentative Course Schedule (Subject to Change)

Date	Topic	Readings (Recommended)
23-Aug	Intro to Cost-Benefit Analysis / Conceptual and Ethical Foundations	FW Ch 1-7 (BGVW, Ch 1 & 2)
30-Aug	Applied Welfare Economics (AWE)	FW Ch 8 (BGVW, Ch 3)
6-Sep	Advanced Topics in AWE: Secondary Markets and Indirect Effects	(BGVW, Ch 4)
13-Sep	Discounting, Time Horizons, Inflation, and Decision Rules	FW Ch 9-13 (BGVW pp. 124-128 & Ch 6)
20-Sep	Dealing with Risk: Sensitivity Analysis	BGVW, Ch 7 (pp.167-87 & 196-97)
27-Sep	Review for Midterm. <span style="float: right;">P R O B L E M   S E T S</span>	FW Ch 14
4-Oct	M I D T E R M   E X A M <span style="float: right;">O U T L I N E</span>	FW Ch 1-14
11-Oct	Cost-Effectiveness v. Economic Impact Analysis / Predicting and Monetizing Impacts	FW Ch 16 & 22 (BGVW, Ch 11)
18-Oct	Shadow Prices from Secondary Sources	BGVW, Ch 16 & FW Ch 21
25-Oct	Direct Estimation of Demand Curves	FW Ch 17 (BGVW, Ch 13)
1-Nov	Using Surveys to Elicit Information About Costs and Benefits	FW Ch 18 (BGVW, Ch 15)
8-Nov	Indirect Market Methods <span style="float: right;">R O U G H   D R A F T S</span>	FW Ch 20 (BGVW, Ch 14)
15-Nov	S T U D E N T   P R E S E N T A T I O N S	
22-Nov	T H A N K S G I V I N G .   -   N O   C L A S S	
29-Nov	S T U D E N T   P R E S E N T A T I O N S	
6-Dec	Review for Final <span style="float: right;">P R O B L E M   S E T S</span>	
27-Dec	F I N A L   E X A M   @   6:30p.m.   T E R M   P A P E R   @   11:59pm	FW 16-18 & 20-23

### University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>"

### Academic integrity

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.