



<b>Course Information</b>	
Course Title : BUS315 – Benefit-Cost Analysis for Business	Semester : Winter 2019
<b>Class Hours:</b> Monday through Friday, 160 minutes each day	
<b>Discussion Section:</b> 3 hours each week	<b>Field Trip:</b> According to professors' teaching plan
<b>Prerequisites</b>	
Both ECON101: Principles of Microeconomics and MATH101: Calculus are required to take this course. Knowledge of ECON301: Intermediate Microeconomics and STAT201: Introduction to Statistics are not necessary, but help you follow and understand the materials easy and fast.	
<b>Textbooks and Reference</b>	
Boardman, Anthony, David Greenberg, Aidan Vining, and David Weimer. Cost-Benefit Analysis: Concepts and Practice, 4 <sup>th</sup> Ed., Cambridge University Press, 2018. ISBN-13: 978-1-108-44828-4 Paperback	
<b>Course Outcomes</b>	
After successful completion of the requirements for this course, students should be able to: <ul style="list-style-type: none"> <li>•determine when a BCA could be performed in meaningful and scientific ways;</li> <li>•execute the BCA as completely and accurately as possible under relevant assumptions or approximations in the model;</li> <li>•identify the factors that may compromise the validity of the BCA such as limitations in the assumptions in modelling, limitations in data, and political concerns;</li> <li>•effectively communicate the results of the BCA with the relevant parties involved in the process.</li> </ul>	
<b>Course Description</b>	
Benefit-cost analysis (BCA) is a crucial economic paradigm for normative economic analysis. Principles, practices, and applications of BCA are main contents of this course; in particular, the government widely uses BCA in policy implementation. The basic theory of benefit-cost analysis (BCA) is explained and the relevance of analysis of policy implementation is investigated with applications of BCA. The objective of this course is to provide students an understanding of both practical aspects of BCA and its economic foundations. Topics include project evaluation techniques; measuring welfare change; correcting for market distortions using shadow wages and prices; finding the appropriate discount rate; making valid valuations that incorporate inflation and appropriate planning horizon, scrap, and spillover and secondary effects; public enterprise pricing rules; valuing intangibles; and incorporating risk and uncertainty. Case studies of projects are analyzed from a variety of areas, such as natural resources, the environment, human resources, public service, and transportation.	



Weekly Schedule (Jan. 7 – 28, 2019)		
Week	Day	Topic
1	1	<p><b>Chapter 1: Introduction to Cost-Benefit Analysis</b></p> <ul style="list-style-type: none"> <li>• Individual vs. Social Cost and Benefit Analysis</li> <li>• Types of BCA Analyses and Their Purposes</li> <li>• Basic Steps of BCA</li> </ul> <p><b>Chapter 2: Conceptual Foundations of Cost-Benefit Analysis</b></p> <ul style="list-style-type: none"> <li>• BCA as a Paradigm for Measuring Efficiency</li> <li>• Using CBA for Decision Making</li> <li>• Fundamental Issues Related to Willingness to Pay</li> </ul>
	2	<p><b>Chapter 3: Basic Microeconomic Foundations of BCA</b></p> <ul style="list-style-type: none"> <li>• Demand and Supply Curves</li> <li>• Social and Government Surplus, and Allocative Efficiency</li> </ul> <p><b>Chapter 4: Valuing Benefits and Costs in Primary Markets</b></p> <ul style="list-style-type: none"> <li>• Valuing Outcomes: Willingness to Pay</li> <li>• Valuing Inputs: Opportunity Costs</li> </ul> <p><u><b>In-class Quiz #1</b></u></p>
	3	<p><b>Chapter 5: Valuing Benefits and Costs in Secondary Markets</b></p> <ul style="list-style-type: none"> <li>• Valuing Benefits and Costs in Efficient Secondary Markets</li> <li>• Valuing Benefits and Costs in Distorted Secondary Markets</li> <li>• Indirect Effects of Infrastructure Projects</li> <li>• Secondary Market Effects from the Perspective of Local Communities</li> </ul>
	4	<p><b>Chapter 6: Discounting Benefits and Costs in Future Time Periods</b></p> <ul style="list-style-type: none"> <li>• The Basics of Discounting</li> <li>• Compounding and Discounting Over Multiple Years</li> <li>• Timing of Benefits and Costs</li> <li>• Comparing Projects with Different Time Frames</li> </ul>
	5	<p><b>Chapter 6: Discounting Benefits and Costs in Future Time Periods</b></p> <ul style="list-style-type: none"> <li>• Inflation and Real vs. Nominal Dollars</li> <li>• Relative Price Changes</li> <li>• Time-Declining Discounting</li> <li>• Sensitivity Analysis in Discounting</li> </ul> <p><u><b>In-class Quiz #2</b></u></p> <p><u><b>*Discussion reading:</b></u>            Harberger, Arnold C. and Richard Just. “A Conversation with Arnold Harberger” <i>Annual Review of Resource Economics</i> 4 (2012): 1 – 377.            Cropper, Maureen. “How Should Benefits &amp; Costs Be Discounted Across Generations?” <i>RFF Resources</i> 183 (2013).</p>
2	1	<p><b>Chapter 7: Dealing with Uncertainty</b></p> <ul style="list-style-type: none"> <li>• Expected Value Analysis</li> <li>• Sensitivity Analysis</li> <li>• Information and Quasi-Option Value</li> </ul> <p><u><b>In-class Quiz #3</b></u></p>



	2	<p><b>Chapter 8: Option Price and Option Value</b></p> <ul style="list-style-type: none"> <li>•Ex-Ante Willingness-to-Pay: Option Price</li> <li>•Determining the Bias in expected Surplus</li> <li>•Signing Option Value</li> </ul> <p><b>Chapter 9: Existence Value</b></p> <ul style="list-style-type: none"> <li>•Active and Passive Use Value</li> <li>•Measurement of Existence Value</li> </ul>
	3	<b>MID-TERM EXAM DAY</b>
	4	<p><b>Chapter 10: Social Discount Rate 1</b></p> <ul style="list-style-type: none"> <li>•Theory Behind the Appropriate Social Discount Rate</li> <li>•Deriving the Social Discount Rate From Market Rates</li> <li>•Shadow Price of Capital</li> <li>•Intergenerational Discounting</li> </ul>
	5	<p><b>Chapter 11: Predicting and Monetizing Impacts</b></p> <ul style="list-style-type: none"> <li>•Predicting Impacts</li> <li>•Monetizing Impacts</li> </ul> <p><b><u>In-class Quiz #4</u></b></p> <p><b><u>*Discussion Reading:</u></b> Kling, Catherine L., and Daniel J. Phaneuf, and Jinhua Zhao. "From Exxon to BP: Has Some Number Better than No Number?" <i>Journal of Economic Perspective</i> 26 (Fall 2012): 3 – 26.</p>
3	1	<p><b>Chapter 12: Valuing Impacts from Observed Behavior 1</b></p> <ul style="list-style-type: none"> <li>•Alternative Evaluation Designs</li> <li>•CBAs of Experiments and Quasi-Experiments</li> <li>•BCAs of Employment and Training Programs</li> <li>•Choosing Prediction Parameters</li> <li>•CBAs of Welfare-to-Work Experiments</li> <li>•Random Assignment Experiment in Health</li> </ul>
	2	<p><b>Chapter 13: Valuing Impacts from Observed Behavior 2</b></p> <ul style="list-style-type: none"> <li>•Knowing the Slope of Price Elasticity</li> <li>•Extrapolating from a Few Observations</li> <li>•Econometric Estimation with Many Observations</li> </ul> <p><b>Chapter 14: Valuing Impacts from Observed Behavior 3</b></p> <ul style="list-style-type: none"> <li>•Market Analogy Method</li> <li>•Trade-Off Method</li> <li>•Asset Valuation Method</li> <li>•Problems with Simple Valuation Methods</li> </ul> <p><b><u>In-class Quiz #5</u></b></p>
	3	<p><b>Chapter 16: Shadow Prices from Secondary Sources</b></p> <ul style="list-style-type: none"> <li>•Value of Statistical Life</li> <li>•Value of a Life-Year</li> <li>•The Cost of Crashes and the Cost of Injuries</li> <li>•The Cost of Crime</li> <li>•The Value of Time</li> <li>•The Value of Recreation &amp; nature</li> <li>•The Value of Water and Water Quality</li> <li>•The Cost of Noise &amp; Air Pollution</li> <li>•The Social Cost of Automobiles</li> <li>•The Cost of Taxation: Marginal Excess Tax Burden</li> <li>•Transferring and Adjusting Plug-in Values</li> </ul>
	4	<b>Chapter 17: Shadow Prices: Applications to Developing</b>



	<p><b>Countries</b></p> <ul style="list-style-type: none"> <li>•The LMST Methodology</li> <li>•Shadow Pricing When Goods are in Fixed Supply</li> <li>•The Shadow Price of Labor</li> <li>•Additional Topics</li> </ul> <p><b>Chapter 18: Cost-Effectiveness Analysis</b></p> <ul style="list-style-type: none"> <li>•Cost-Effectiveness Ratios and Policy Choice</li> <li>•Omitted Costs and Benefits</li> <li>•Cost-Utility Analysis</li> </ul> <p><b>*Discussion: How Accurate is CBA?</b></p> <p><b><u>In-class Quiz #6</u></b></p>
5	Discussion and Final Review
Jan. 27 or 28	<b>FINAL EXAM DAY</b>
<p><b>Note :</b></p> <ol style="list-style-type: none"> <li>1. The course schedule is subject to change (please follow the announcements in class). If time permits, we will also cover miscellaneous topics based on students' interests.</li> <li>2. The instructor will offer 3 hours of discussion or help session each week and students are encouraged to seek extra help by making arrangements with the instructor or the teaching assistant.</li> </ol>	



Grading	
Quizzes	10%
Assignments	10%
Case Study	10%
Midterm exam	30%
Final exam	30%
Attendance and Participation	10%

Students are required to attend all classes and actively participate in class discussions. Students should treat class obligations with serious and sincere attitude. Your attendance and participation grade (10% of the total course grade) will be based on the instructor's assessment of how well you contribute to class discussion relative your classmates; students are expected and encouraged to contribute to class discussion.

**In- class Quizzes (10%):** There will be six in-class quizzes in total over the session, which account for 10% of the total course grade. The in-class quiz wants to test how well students review the class materials after the class. It mainly consists of multiple-choice and short-answer questions from the previous classes.

**Short Assignments (10%):** There will be three or four short assignments consisting of computational and analytical questions. Students are encouraged to work together with classmates, but they have to turn in their own work. Copying one of your classmates' work is a violation of the university's Honor Code.

**\*Late Submission:** Short assignments submitted after the due date will **not be accepted** for grading unless official permission for the last submission has been granted from the instructor.

**Case Study (10%):** Students will be assigned to a small group and each of these group will make an in-class presentation of a case related to the application of benefit-cost analysis (BCA) in a discussion session. Details of the topic to be examined and expectations of the presentation (e.g., duration and format) will be provided in class.

**Examination:** There will be one in-class mid-term examination and an in-class final examination, each of which accounts for 30% of the total course grade. The mid-term examination will be administered during the middle of the second week, and the final examination at the end of the course. Details of exam contents and format, etc. will be announced in class well before the examination date.

**\*Deferred Examinations:** If students are unable to attend a scheduled exam (e.g. due to illness or other unavoidable circumstances which can be proved – e.g. medical certificate), they may be eligible to take a deferred examination at a later time.

Upon successful completion of this course, students will receive a final grade. A final grade is a numerical value that demonstrates a degree of understanding of the course materials. A final grade will be determined as follows:

Grade	Percentage
A	80-100



B	70-79
C	60-69
D	50-59
E	0-49

**Academic Integrity**  
Soochow University defines academic misconduct as any act by a student that misrepresents the student's own academic work or that compromises the academic work of another. Scholastic misconduct includes (but is not limited to) cheating on assignments or examinations; plagiarizing, i.e. misrepresenting as one's own work any work done by another; submitting the same paper, or substantially similar papers, to meet the requirements of more than one course without the approval and consent of the instructors concerned; sabotaging another's work. Within these general definitions, however, instructors determine what constitutes academic misconduct in the courses they teach. Students found guilty of academic misconduct in any portion of the academic work face penalties ranging from lowering of their course grade to awarding a grade of F for the entire course.

**Disability accommodation**  
Any student who needs special accommodation due to the impact of a disability should contact the instructor and/or the university within the first week of the class.