

**SPEA V401 – Financial and Cost-Benefit Analysis**  
**Indiana University**  
**Spring 2017**

Professor: Bradley Heim

Office: SPEA 375J

Telephone: (812) 855-9783

Email: [heimb@indiana.edu](mailto:heimb@indiana.edu)

Office Hours: W 10:00-Noon or by appointment

Time: 9:30-10:45 AM TTh

Location: Swain East 105

**Prerequisite:** V361 or consent of department.

**Course Description:**

This is an advanced undergraduate course in policy analysis in which you will extend your existing knowledge and skills in the areas of financial analysis and microeconomics, and apply them to evaluate the wisdom of undertaking complex private and public projects.

We will begin by reviewing and applying financial analysis techniques, including discounting, accounting for inflation, calculating net present value, etc. These tools will be used throughout the course in comparing and analyzing different projects, and are useful for your own personal financial decisions.

We will then extend these techniques to the arena of public sector project evaluation using Cost-Benefit Analysis. To do so, we will review some basic microeconomics and welfare economics that provide the foundation for cost benefit analysis. We will then cover how this theory can be applied to calculate costs and benefits in practice.

At the completion of this course, you will have the skills to conduct analyses of both public and private projects in a rigorous manner.

**Course Format:**

This course will consist of a mixture of lectures, discussions, in-class activities, problem sets, and case studies. I expect you to do the readings in advance of each class, and be fully prepared to participate in discussions and activities. To this end, I will collect short assignments based on some of the readings and collect several of the in-class assignments, which will form the basis for your class participation grade. I also strongly encourage questions and participation during lectures.

**Readings:**

The required text is:

*Cost-Benefit Analysis*, 4<sup>th</sup> edition, by Boardman, Vining, and Weimer. (Prentice Hall, 2011)

I also recommend that you get the text

*Schaum's Outlines: Engineering Economics*, by Sepulveda, Souder and Gottfried.

This text is inexpensive (around \$20), and does a better job explaining the financial analysis part of the course. It also contains a large number of problems to help you practice.

Additional required readings will be posted on Canvas.

**Attendance:**

Attendance is expected. If you must miss a class, make arrangements with someone to get the notes and be sure to do the reading. Be aware that you will not get credit for any activities that took place during the class you missed.

**Graded Assignments:**

Grading will be based on class participation, problem sets, case study memos, a midterm exam, and a final exam. The weights I will place on the five parts are as follows:

- Class Participation      10%
- Problem Sets              20%
- Case Study Memos      20%
- Midterm                    20%
- Final                        30%

There are no make-up assignments, and late assignments will not be accepted. Job interviews are not an excuse for missed assignments, classes, or tests. You must schedule your job search around the class assignments.

**You may work on problem sets with a classmate, but each student must hand in his or her own work, and you must identify the student that you worked with. Case studies are to be completed independently.**

You may be excused from an assignment only in cases of illness or family emergency. In this case, the grade from the assignment will be dropped. To be excused due to illness, you must notify me immediately and provide a note from a doctor written on letterhead with the doctor's name, signature and telephone number. To be excused due to a family emergency, you must notify me before the test, providing a written explanation of the nature of the emergency, the dates on which you will be away from school, where you will stay during those dates, and the telephone number of the person with whom you will stay.

I plan to grade on a curve. However, I reserve the right to not curve, or to curve up or down, a grade from any particular assignment or the overall grade in a manner that I deem to be fair.

I take fairness in grading very seriously, and as such, I will not grant any waivers from the above policies, nor will I give "extra credit" assignments or bump a student's grade up because they don't feel that it accurately reflects their understanding of the material.

### **Regrading Policy**

I will only consider regrades if you adhere to the following procedure. If you believe that an error was made in grading your homework or exam, write out on a sheet of paper which part of the assignment you would like to have regarded, and the reason why your answer deserves more points, and hand it in to me. I will review the request, and if I judge the request to be legitimate, your score will be adjusted accordingly. Regrade requests handed in more than two weeks after assignments have been returned will not be considered.

### **Academic Misconduct and General Academic Policies:**

Cheating and plagiarism will not be tolerated. Definitions of various types of academic misconduct and University policies for dealing with violations are included in the Code of Student Rights, Responsibilities, and Conduct; see <http://www.indiana.edu/~code> for more information. **Any student found cheating, plagiarizing, or working with another student (including providing or receiving assistance) in an unauthorized manner will receive a zero for the assignment and/or a failing grade for the course, and the incident will be reported to the Dean of Students. Other sanctions are possible.** Please refer to the following link for information on general academic policies pertaining to this course:

[http://www.indiana.edu/~spea/about\\_spea/SPEA%20Policies%20.shtml](http://www.indiana.edu/~spea/about_spea/SPEA%20Policies%20.shtml)

## Tentative Semester Schedule

<u>Week</u>	<u>Topic</u>	<u>Event</u>
<b>Week 1</b>		
T 1/10 Th 1/12	Introduction to CBA Basics of CBA	
	<u>Readings</u> Boardman, Ch. 1	
<b>Week 2</b>		
T 1/17 Th 1/19	Basics of Investment Analysis Finance Formulas	<b>Problem Set 1 Assigned</b>
	<u>Readings</u> Boardman, Ch. 6, p. 133-143, Appendix 6A	
<b>Week 3</b>		
T 1/24 Th 1/26	Finance Formulas (Cont.) Applications of Finance Formulas	<b>Problem Set 1 Due</b>
<b>Week 4</b>		
T 1/31 Th 2/2	Shorter Compounding Periods/Project Lifecycles Inflation	<b>Problem Set 2 Assigned</b>
	<u>Readings</u> Boardman Ch. 6, p. 143-151	
<b>Week 5</b>		
T 2/7 Th 2/9	Inflation (Cont.) Alternative Investment Criteria	<b>Problem Set 2 Due</b>
	<u>Readings</u> Boardman Ch. 2, p 32-33 Boardman Ch. 6, p. 158 Boardman Ch. 10	

**Week 6**

**T 2/14**  
**Th 2/16**

Sensitivity Analysis  
Sensitivity Analysis/Memo Writing

**Case Study 1 Assigned**

Readings

Boardman Ch. 7, p. 177-187

**Week 7**

**T 2/21**  
**Th 2/23**

Differences Between Financial and Cost-Benefit Analysis  
Kaldor-Hicks Tableaus

**Case Study 1 Due**

Readings

Boardman Ch. 2  
Krutilla Article

**Week 8**

**T 2/28**  
**Th 3/2**

Cataloging Inputs and Outputs and Predicting Impacts  
**MIDTERM EXAM**

Readings

Boardman Ch. 11

**Week 9**

**T 3/7**  
**Th 3/9**

Willingness to Pay and Consumer Demand  
Marginal Cost and Firm Supply

Readings

Boardman Ch. 3

**Week 10**

**T 3/21**  
**Th 3/23**

Equilibrium  
Welfare Properties of Equilibrium

**Problem Set 3 Assigned**

**Week 11**

**T 3/28**

Distorted Markets

**Th 3/30** Effects of Government Intervention **Problem Set 3 Due**

Readings  
Gramlich Ch. 2

**Week 12**

**T 4/4** Valuing Costs in Undistorted Primary Markets  
**Th 4/6** Valuing Costs in Distorted Primary Markets

Readings  
Boardman Ch. 4 p. 99-110

**Week 13**

**T 4/11** Application of Shadow Pricing  
**Th 4/13** Valuation Benefits Using Revenue /  
Contingent Valuation

**Case Study 2 Assigned**

Readings  
Boardman Ch. 15, Ch. 4 p. 81-99

**Week 14**

**T 4/18** Contingent Valuation Method Cont.  
**Th 4/20** Indirect Valuation Methods

**Case Study 2 Due**

Readings  
Boardman Ch. 13-14

**Week 15**

**T 4/25** Indirect Valuation Methods (Cont.)  
**Th 4/27** Benefits and Costs in Secondary Markets/  
Wrapping Up

Readings  
Boardman Ch. 16 p. 406-412, 419-421, Ch. 5

**Finals Week**

**T 5/2** **FINAL EXAM 10:15-12:15**