George Washington University  
PPPA 6015.10: Benefit-Cost Analysis  
Fall 2015

Time: Mondays, 12:45-2:35pm (not 3:15!)  
Location: Duques Hall, Room 250

Professor: Stephanie R. Cellini  
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Office Hours: Wednesday 3-5pm, and by appointment

Course Description & Objectives

This course seeks to link economic theory with policy analysis, using the tool commonly referred to as “cost-benefit analysis” or CBA. As a formal assessment of a policy’s costs and benefits, CBA attempts to measure and compare the economic efficiency of policy options. This type of analysis has become standard practice in policy analysis—particularly in microeconomic policy areas such as the provision of public goods, government regulation, and taxation. The goal of the course is to provide you with the conceptual foundations and practical skills you will need to be thoughtful consumers and producers of CBA.

The class will draw on qualitative, quantitative, and analytic skills. As a practical matter, a familiarity with microeconomic theory, statistics, and algebra is assumed. The prerequisite for this class is PPPA 6014 (Economics in Policy Analysis) or Econ 6283 (International Trade Theory & Policy). If you have not taken one of these courses, you must get my approval before enrolling.

The course is designed primarily around the interests and requirements of MPP and PhD Public Policy & Administration students, but I welcome students from any and all other disciplines. I have indicated extra readings and practice problems for the PhD students below. While the PhD students will not be tested on these readings and problems directly, they are considered important in preparation for comprehensive exams and your future career. These readings and problems can also be considered “recommended” extra resources for interested MPP students.

Learning Objectives

Through lectures, discussions, readings, assignments, and exams, students will develop knowledge and skills that will enable them to:

- Conduct a thorough cost-benefit analysis.
• Understand and articulate the limitations of a cost-benefit analysis.
• Critically analyze cost-benefit analyses conducted by others.
• Apply economic theory to real-world policy problems.
• Evaluate and compare alternative policies using the tools of cost-benefit analysis and economics generally.

Course Requirements

• Take-Home Exam (35%)
  o Covers all course material up to that point. More details to come.

• CBA Project (total=60%)—See the CBA guidelines handout for details.
  o CBA Project Proposal (5%)
  o List of Potential Costs & Benefits (5%)
  o Literature & Data Review (5%)
  o Presentation (5%)
  o Final Paper (40%)

• Class Participation (5%)
  o I value your positive participation in class discussions, in-class exercises, and other class activities.

• Practice Problem Sets (0%)
  o You are not required to turn in the problem sets. They are designed to help reinforce the concepts from class and prepare you for the exams. They are listed on the syllabus under the class in which the concepts are covered, the idea is that you should be able to do them AFTER the class under which they are listed. I will post solutions on Blackboard about a week later.

Required Text

• Since the 4th edition is pretty different than the 3rd, please make sure you get the 4th.

Recommended Text

• I recommend having an intermediate micro book (like this one) on hand for reference purposes.
Other Materials

Calculator: You can use your phone’s calculator function or a regular old-school calculator, but you will want something for tabulations when doing in-class exercises, practice problems, and the exam.

Excel: You will need to use Microsoft Excel for your own CBA, the exam, and some of the practice problems. Basic familiarity is assumed, but I will go over useful functions and other tips in class.

PowerPoint: You will need to use Microsoft PowerPoint for your presentation. I will review some basics in class before the first presentations, if needed.

Class Schedule & Outline

Week 1 (Aug. 31)
- Overview of Cost-Benefit Analysis
  - What is CBA?
  - How, When & Why is it Useful?
  - What are its Limitations?
    - Ch. 1 & 2 BGVW
- Practice Problem Set #0 (Review)
- Practice Problem Set #1

Happy Labor Day!
- No class Sept. 7, but I recommend starting next week’s reading: there is A LOT!

Week 2 (Sept. 14)
- Foundations of Welfare Economics
  - Pareto & Potential Pareto Efficiency
  - Opportunity Cost & Willingness-to-Pay
  - Consumer Surplus, Producer Surplus, Social Surplus
    - Ch. 3 BGVW
    - Case Study: Tobacco Regulation, 2014
- PhDs: Appendix 3A BGVW
- Practice Problem Set #2

Week 3 (Sept. 21)
- CBA Theory: Valuing Impacts in Primary Markets
  - Efficient Markets
  - Inefficient Markets
- CBA Project Proposal Due
- Ch. 4 BGVW
- Practice Problem Set #3

Week 4 (Sept. 28)
- CBA Theory: Valuing Impacts in Inefficient & Secondary Markets
  - Inefficient Markets (con’t.)
  - Special Case: Unemployed Workers
  - Secondary Markets
- BGVW Ch. 5 & 11
- Practice Problem Set #4

Week 5 (Oct. 5)
- CBA Practice: Predicting and Monetizing Impacts in Markets
  - Statistical & Econometric Methods
  - Experimental & Quasi-Experimental Methods
- Ch. 12, 13, & Appendix 13A BGVW

**Practice Problem Set #5**

**Week 6 (Oct. 12)**

- Valuing Non-Market Goods & Services
  - Indirect Market Methods: Market Analogy, Trade-Off, Intermediate Good, Asset Valuation
  - Survey Methods: Contingent Valuation

- **List of Potential Costs & Benefits Due**
  - Ch. 14 (up to p. 353 only) & Ch. 15 BGVW
- Practice Problem Set #6

**Week 7 (Oct. 19)**

- Special Cases of Non-Market Goods in CBA
  - Valuing Time: Value of Travel Time Savings
  - Valuing Life: Value of Statistical Life
  - Valuing Nature: Option Value, Existence Value
  - Ch. 9 & 16 BGVW
- Practice Problem Set #7

**Week 8 (Oct. 26)**

- **Discounting Future Benefits & Costs**
  - Social Discount Rate
  - Net Present Value
  - Inflation
    - Ch. 6 BGVW

- PhDs: Ch. 10 BGVW
- Practice Problem Set #8

**Week 9 (Nov. 2)**

- **Dealing with Uncertainty**
  - Sensitivity Analysis: Partial, Extreme Case, Monte Carlo
  - Crystal Ball Software Demo by Prof. Cordes
    - Literature & Data Review Due
    - Ch. 7 & Appendix 7A BGVW
    - Practice Problem Set #9
Week 10 (Nov. 9)
- Distributional Considerations, Alternative Approaches, & Policy Recommendations
  - Distributional & Internal Weights
  - Cost-Effectiveness Analysis
  - Policy Recommendations
    - **Hand out Take-Home Exam**
    - Ch. 18 BGVW
    - Practice Problem Set #10

Week 11 (Nov. 16)
- Recap, Review, Guest Speaker, and/or New Material (if we are behind)
  - CBA project tips
  - Possibly individual meetings about CBA project
    - **Take-Home Exam Due**

Week 12 (Nov. 23—Monday before Thanksgiving)
- **Presentations (Day 1)**

Week 13 (Nov. 30—Monday after Thanksgiving)
- **Presentations (Day 2)**

Week 14 (Dec. 7)
- Possible make-up day or optional individual meetings about CBA project

Final Paper Due: Friday, Dec. 11, 12:45pm, MPA 601M (my office or mailbox).

Additional Policies & Information
- Attendance: Please try not to miss class! Lectures are your most important source of information for the exam and project and class participation is part of your grade. If you are late or have to miss class, you do not need to let me know, but please make sure you get notes from a classmate and download all relevant materials from Blackboard.

- Turning Things In: The exam should be turned in hard copy only. Project assignments should be turned in in hard copy (most important) AND electronically using
Blackboard’s “Assignment” feature on the main menu. Whenever possible, please turn in pdf files of your work. If, for any reason, the hard copy and electronic documents are not identical (though they should be), the hard copy will be used for grading purposes.

- Deadlines: This syllabus provides all relevant due dates for assignments. It is your responsibility to ensure that I receive your assignments on time. All assignments and the exam must be handed in by the start of class. Electronic copies of the assignments can be uploaded until midnight on the due date. Late assignments will be marked down for each day they are late (only extreme circumstances warrant exception).

- Collaboration: You are welcome to work together on the practice problems and share comments and advice on CBA projects. However, the exam and assignments to be turned in must be done on your own.

- Academic Integrity: Academic dishonesty will not be tolerated and I regularly check exams and assignments for plagiarism and cheating. You are responsible for knowing and following all of the definitions and policies established in the George Washington University Code of Academic Integrity at http://www.gwu.edu/~ntegrity/code.html.

- Grade Changes: No changes can be made in grades after the conclusion of the semester, other than in cases of clerical error.

- Religious Holidays: Religiously observant students should notify me the first week of classes regarding any session that will be missed; the courtesy of an absence without penalty will be extended.

- Accommodation for Students with Disabilities: If you need extra time on exams or assignments due to a disability, please let me know in the first week of class. In order to receive accommodations on the basis of disability, you will need to provide proper documentation to the Office of Disability Support Services, Rome Hall, Suite 102 http://disabilitysupport.gwu.edu/.

- Extra Help: Please be sure to contact me or come to office hours early in the semester if you are struggling with course materials or if you have specific questions pertaining to your CBA project.

- Feedback: I welcome your feedback on my teaching, the CBA project, and the course in general. In particular, if you find any interesting articles, CBAs, or other references that you would recommend for future classes please send them my way!