THOMPSON RIVERS UNIVERSITY

Course Outline

Business Undeclared
School of Business & Economics

ECON 6030 - **3.00** - Academic

Foundations of Cost-Benefit Analysis

Rationale

Based on recommendations from the Degree Quality Assessment Board, the following minor course changes are proposed:

- Change the course acronym from ESMN to ECON
- Add a second degree to the prerequisites and change the names of the degrees

Calendar Description

Students are introduced to the principles and practice of cost-benefit analysis and how it is applied to evaluating public policies and specific projects. Topics include the conceptual and economic foundations of cost-benefit analysis; valuing benefits and costs in primary and secondary markets; discounting benefits and costs; evaluation criteria; incorporating uncertainty and risk; the role of option price and value; existence value of projects; social discount rate; and predicting and monetizing impacts. Applications relate to such areas as human resource, natural resource, recreation economics plus economic development and urban planning.

Credits/Hours

Course Has Variable Hours: No
Credits: 3.00
Lecture Hours: 3.00
Seminar Hours: 0
Lab Hours: 0
Other Hours: 0
Clarify:
Total Hours: 3.00
Delivery Methods: (Face to Face)
Impact on Courses/Programs/Departments: None is expected
Repeat Types: A - Once for credit (default)
Grading Methods: (G - Graduate Programs)

Educational Objectives/Outcomes

1. Justify the importance of cost-benefit analysis as a tool for sustainable economic management.

2. Discuss cost-benefit analysis as a tool for measuring efficiency and making decision and its limitations.
3. Measure social surpluses and changes in welfare with or without distortions.
4. Evaluate benefits and costs in primary markets with or without distortions.
5. Analyze the benefits and costs in secondary markets with or without distortions.
6. Apply discounting in cost-benefit studies.
7. Integrate risk and uncertainty in cost-benefit studies.
8. Explain the role of option price and value.
9. Calculate the existence value of projects.
10. Assess the importance of the social discount rate.
11. Estimate monetized impacts from investment projects.
12. Conduct and assess a cost-benefit study.

Prerequisites

Admission to the MEEM or MScEEM or approval of degree committee

Co-Requisites

Recommended Requisites

Exclusion Requisites

Texts/Materials

Textbooks

1. **Required** Boardman, Anthony E., David H. Greenberg, Aidan R. Vinning, David L. Weimer. *Cost-Benefit Analysis: Concepts and Practice* Pearson/Prentice-Hall, 2010
2. **Required** Pearce, D., G. Atkinson, S. Mourato. *Cost-Benefit Analysis and the Environment: Recent Developments* OECD, 2006

Student Evaluation

The Course grade is based on the following course evaluations.

Assignements/Cases (25.00%) Midterm Exam (25.00%) Class Participation (5.00%) Final Exam (45.00%)

Course Topics

1. Introduction to Cost-Benefit Analysis
   - Individual versus social costs and benefits
   - Types of cost-benefit (CBA) analyses and their purposes
   - Basic steps of CBA: Coquihalla highway example
   - Bureaucratic and political lenses
   - Demand for CBA

   Cost of doing CBA
2. Conceptual Foundations of Cost-Benefit Analysis

- CBA as a framework of measuring efficiency
- Using CBA for decision making
- Fundamental issues related to willingness to pay
- Concerns about the role of CBA in the political process
- Limitations of CBA: other analytical approaches

3. Economic Foundations of Cost-Benefit Analysis

- Demand curves
- Supply curves
- Social surplus and allocative efficiency
- Government surplus and allocative efficiency
- Measuring changes in welfare

4. Valuing Benefits and Costs in Primary Markets

- Practical versus conceptually correct
- Measures of benefits and costs
- Valuing outcomes: willingness to pay
- Valuing inputs: opportunity costs

5. Valuing Benefits and Costs in Secondary Markets

- Valuing benefits and costs in efficient secondary markets
- Valuing benefits and costs in distorted secondary markets
- Indirect effects of infrastructure projects
- Secondary market effects from the perspective of local communities

6. Discounting Benefits and Costs in Future Time Periods

- Basics of discounting
- Compounding and discounting over multiple periods
- Timing of benefits and costs
- Comparing projects with different time frames
- Inflation and real versus nominal dollars
- Relative price changes
- Long-lived projects and horizon values
- Time-declining discounting

Sensitivity analysis in discounting

7. Dealing with Uncertainty: Expected Value, Sensitivity Analysis, and the Value of Information

- Expected value analysis
- Sensitivity analysis
- Information and quasi-option value

8. Option Price and Option Value

- Ex ante willingness to pay option price
- Determining the bias in expected surplus: signing option value
- Rationales for expected surplus as a practical benefit measure

9. Existence Value

- Active and passive use value
- Measurement of existence value

10. The Social Discount Rate

- Does the choice of discount rate matter?
- Theory behind the appropriate discount rate
- Deriving the social discount rate from market rates: four alternatives
- Shadow price of capital
- Using the optimal growth rate approach to discounting
- Intergenerational discounting
- Social discount rate in actual practice

11. Predicting and Monetizing Impacts
    - Predicting impacts
    - Monetizing impacts
    - Illustration of impacts
12. Applications of Cost-Benefit Studies
    - Selected applications of cost-benefit studies

Methods for Prior Learning Assessment and Recognition

Students can apply for PLAR but it cannot be used to meet the program residency requirement.

Last Action Taken

Implement by Graduate Studies Committee Chair Debbie (Proxy GSC Chair) Krebs

Current Date: 27-Oct-20