**HE311 – Cost Benefit Analysis**

**Course Outline**

Cost benefit analysis is concerned with the theory and application of criteria for public investment decision-making. The purpose of this course is to develop an understanding of the principles of cost benefit analysis and to indicate the usefulness and limitations of the method by way of project evaluations and other varied examples on its implementation. Such questions as what costs and benefits are to count, what alternative investment decision criteria exist besides the popular discounted cash flow method, how do we appraise projects under conditions of uncertainty, and what could be done about distributional considerations? The problem of including non-market goods and their valuation is also highlighted and discussed in this course. Such commodities as scenic views, human life, time, environmental externalities, and recreation which are not exchanged explicitly in the market require shadow-efficiency prices for inclusion into cost benefit analysis. Throughout the course, emphasized be on cost-benefit analysis and the environment. Helpful prerequisites to this course will be a microeconomics principles course and some knowledge of basic calculus and algebra. Exercises and cases involving real and simulated cost benefit studies will be given where appropriate.

**Topics for Seminar Discussion**

- Introduction: some examples and scope of CBA
- Measurement of benefit and costs: welfare gains, transfer payments and double counting
- Efficiency pricing: market and non-market goods
- Investment decision criteria: dcf, npv, irr, bc ratio, choice of rate of discount
- Uncertainty and risk: probability adjustment for risk, decision rules
- Distributional considerations: some approaches, constraint and weight determination
- Some examples and case studies:
  - City subway system
  - Third airport
  - Flood control project
  - Anti-poverty training programme
  - New highway project
  - Recreational facilities
  - Underwater tunnel project
  - Materials recycling scheme
  - Nuclear power programme
  - Not in My Backyard facilities
**Course Assessment:**
Tutorial and exercises  20%
Term paper   30%
Final examination  50%

**Suggested Readings**
Cost-Benefit Analysis; Cases and Materials by Euston Quah and Raymond Toh. United Kingdom: Routledge 2012
Cost-Benefit Analysis by E. J. Mishan and Euston Quah; 5th Edition; Routledge 2007

**Instructors**
Prof Euston Quah
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**Guest Lecturers (Tutorials and Seminar Discussion)**
Assoc Prof Chia Wai Mun
Asst Prof Chang Youngho
Mr Tan Tsiat Siong