IU SPEA in Pamplona 2010
SYLLABUS

Course Titles: Economic Evaluation of Health, Safety, and Environmental Programs in Europe and the United States I and II.

Institutional Collaborators: Indiana University (USA) and University of Navarra (Spain)

Location: Pamplona, Spain

Dates: Monday, May 24 – Friday, June 18, 2010 (orientation Sunday, May 23)

Lead Instructors: Dean John D. Graham and Dr. Kerry Krutilla, Indiana University, and Professor Maria Segui-Gomez, University of Navarra Medical School

Credit Hours for IU Students: Six (two, three-credit SPEA-V450 or V550 courses)

Course Language: English

Program Overview

These are introductory courses on the theory, methods, and applications of economic evaluation to human health, safety and environmental programs. Applications cover preventive and therapeutic medicine, occupational and environmental health, consumer protection and injury control. There are no formal course prerequisites, though a prior course in microeconomics or cost-benefit analysis is helpful.

“Economic evaluation” is a generic term that includes cost analysis, cost-benefit analysis, cost effectiveness analysis, and cost utility analysis. Unlike a business course, which focuses on profit/loss to the firm, this course is taught primarily from the societal perspective, so that impacts on all citizens in society are considered. Periodically, the instructors shall underscore how the results from a “societal” analysis might differ from other perspectives. Differences between the USA and the EU in how analyses are conducted and used by decision makers will be highlighted.

The learning objectives of the courses are to:

1) develop an understanding of the theoretical underpinnings of economic evaluation;
2) learn how different types of economic evaluations are carried out in practice in the USA and the EU;
3) learn how to critically examine economic evaluations of specific programs;
4) explore how economic evaluation bears an impact on the real-world decision making responsibilities of authorities in the public and private sectors (USA and EU).

Class Schedule

The courses will meet twice each day during the four-week period. Morning and afternoon sessions will be 1½ hours each. There will be no classes on Friday afternoons. Sessions will
consist of a mix of lectures, seminar discussion, group projects, case studies, and/or student presentations.

**Expectations of Students**

A grade will be awarded for each of the two courses. For undergraduate students, the grade will be comprised of two in-class exams (60%), a written critical appraisal prepared by small teams of students (20%), pop quizzes (10%), and class participation (10%). For graduate students, grades will be determined 40% by a research paper on an approved topic of the student’s choice, and the remainder will be split between in-class exams (30%), the critical appraisal (10%), pop quizzes (10%), and class participation (10%). All research papers will be due on the last day of class.

Readings must be completed before each class session. Reading assignments are subject to pop quizzes, and familiarity with readings will be reflected in the class participation grade.

**Academic Integrity**

As always, no form of academic dishonesty will be tolerated. If your instructors suspect academic dishonesty, you will be notified immediately and asked to explain your actions. If academic dishonesty is verified, you will receive a grade of zero for the particular work in question; repeat offense is ground for failure in the course. If you have questions or concerns on how to properly cite the work of others, please ask for help ahead of time. For more information about academic honesty and plagiarism, see the *Indiana University Code of Student Rights, Responsibilities, and Conduct* at [http://dsa.indiana.edu/Code/index.html](http://dsa.indiana.edu/Code/index.html).

**Attendance and Tardiness**

Satisfactory attendance and classroom participation are necessary to excel in these courses. Due to the condensed nature of the courses, unexcused absences will not be approved. Any class work missed during an unexcused absence – including the class participation grade for that session, exams, and pop quizzes – cannot be made up. Excused absences will be reviewed on a case by case basis. Excused absences require notification beforehand, with a valid reason for missing the class. Arrangements should be made with a classmate to take notes and obtain copies of handouts when absence is unavoidable. It is the student’s responsibility to initiate contact with the instructor to make up missed work, such as quizzes or exams.

**Required Texts**


Class Sessions

Session 1, May 24 morning:  Definitions of Economic Evaluation and a Critical Appraisal (Graham, Segui-Gomez)

Topics: Types of economic evaluation (CBA, CEA, CUA); early history of applications in the health, safety and environmental context; “cost-of-illness” and “willingness to pay” traditions; objections to pricing health: claims and responses; growth in the literature by topic; how decision makers use (and misuse) economic evaluation. What is a critical appraisal; how to choose a topic and form a team; how to choose a specific article/study to critique; ingredients of an appraisal; sample of a critical appraisal; plan for student presentations of appraisals; sample critical appraisal by Graham/Segui-Gomez.

Readings:

Session 2, May 24 afternoon:  Program Costs and Savings I (Graham)

Topics: The duality of costs and savings; resource costs; opportunity costs; sunk costs; transfers; using market prices properly; shadow prices; tear-down pricing of equipment; cost accounting concepts; capital cost estimation; time preference.

Readings:
- Drummond et al., pp. 52-95.

Session 3, May 25 morning:  Program Costs and Savings II (Graham)

Topics: Purchasing power adjustments across regions and time; price indices (design, use and limitations); value of labor and leisure time (homemakers, patients, nurses, physicians, commuters; long-distance travelers); treatment of taxes; time and motion studies.

Readings:
- Boardman et al., pp. 415-417.

Session 4, May 25 afternoon:  Cost-of-Illness (COI) Studies (Segui-Gomez)

Topics: What are COI studies and how are they used; how are the health care and productivity burdens of disease and injury quantified; what data are necessary and available; what assumptions are typically made, and what are some common pitfalls; in-depth look at the cost of injuries.

Readings:
- Boardman et al., pp. 409-413.
Sessions 5 and 6, May 26 all day: Excursion

Session 7, May 27 morning: Assessing Program Effectiveness (Segui-Gomez)

Topics: How data/estimates on program effectiveness are obtained; laboratory experiments with animals; randomized clinical trials with human volunteers; epidemiology; quasi-experimental design; modelling; meta-analysis; expert judgment.

Readings:

Session 8, May 27 afternoon: Methods of CEA I (Segui-Gomez)

Topics: Elements of a basic analysis; choice of comparators; the effectiveness metric; cost/savings information; treatment of time preference (discounting); constructing cost-effectiveness ratios; decision rules using ratios; philosophical issues and concerns.

Readings:
- Drummond et al., pp. 96-138.

Session 9, May 28 morning: Methods of CEA II (Segui-Gomez)

Topics: Lives or life years saved; scoring health states; quality-adjusted life years (QALYs) and the alternatives; CEA versus CUA; issues concerning senior citizens and the disabled; how preference weights are derived; why EU tends to favour CEA over CBA.

Readings:
- Drummond et al., pp. 139-204.

Session 10, May 28 afternoon: No class

Session 11, May 31 morning: Exam

Session 12, May 31 afternoon: Foundations of CBA (Graham)

Topics: Pareto, Kaldor-Hicks, and Rawlsian tests; standing; preference versus well being; criticisms and rejoinders; addressing distributional concerns; Arrow’s impossibility results; the net-benefit test; the risks of benefit-cost ratios.

Readings:
- Boardman et al., pp. 26-50 (skim).
- Drummond et al., pp. 205-231 (skim).
**Session 13, June 1 morning:** Valuing Health I and Valuing Health II: Revealed Preference (Graham)

Topics: Willingness to pay and accept; black pill/white pill experiments; external impacts; altruism; impacts on the poor; USA vs. EU estimates for value of lifesaving/health; time preferences in valuing health; intergenerational complexities. Hedonic models; estimating WTP for health protection from real-world market decisions; wage premiums for hazardous jobs; consumer and transport decisions; the role of information and decision alternatives; study limitations.

Readings:
- Anthony E. Boardman et al., pp. 337-368.

**Session 14, June 1 afternoon:** Valuing Health III: Expressed Preference (Graham)

Topics: Eliciting WTP/WTA values through questionnaire methods; design of the survey instrument; cognitive issues in instrument design; analysis and interpretation of responses; validity test for stated economic preferences.

Readings:
- Boardman et al., pp. 369-402.

**Sessions 15 and 16, June 2 all day:** Excursion

**Session 17, June 3 morning:** Uncertainty and Sensitivity Analysis (Graham) and Value-of-Information Analysis (Segui-Gomez)

Topics: Deterministic versus probabilistic analysis; sensitivity analysis; attitudes toward uncertainty; the case for use of expected values in many societal decisions; subjective versus objective probability; simulation; calibration of expert probabilistic judgments. What to do when gathering additional data to reduce uncertainty is a viable alternative; “value of information” (VOI) analysis as a form of CBA.

Readings:
- Boardman et al., pp. 165-199, 200-213 (skim), 213-221.
- Drummond et al., pp. 247-255 (skim).
Session 18, June 3 afternoon: Ex Ante vs. Ex Post Evaluation; Time Preference (Graham)

Topics: The validation of ex ante estimates of benefit and cost; the challenges of performing ex post assessments; what the literature suggests about the validity of cost and benefit estimates; a case study of the predicted benefits and costs of automobile airbags.

Readings:

Session 19, June 4 morning: Exam

Session 20, June 4 afternoon: No class

Session 21, June 7 morning: Stakeholder Accounting (Krutilla)

Topics: Developing a stakeholder accounting framework; application to health evaluations; review of common stakeholder perspectives (service provider, pharmaceutical company, payer perspective (private insurer or government), more-than-one stakeholder perspective, complete social perspective).

Readings:
**Session 22, June 7 afternoon:** Distributional Considerations: Normative and Postive Aspects (Krutilla)

Topics: How to assess the equity of cost-benefit distributions; efficient equity; intangible costs and benefits; the ethics of benefit-cost analysis; political issues in benefit-cost analysis.

Readings:
- Boardman et al., pp. 488-506.

**Session 23, June 8 morning:** Medical Case Study: Surgery (Segui-Gomez)

Readings:

**Session 24, June 8 afternoon:** Medical Case Study: Pharmaceuticals (Segui-Gomez)

Readings:

**Sessions 25 and 26, June 9 all day:** Excursion

**Session 27, June 10 morning:** Injury Control Case Study: Technology (Segui-Gomez)

Readings:

**Session 28, June 10 afternoon:** Injury Control Case Study: Human Behavior (Segui-Gomez)

Readings:

**Session 29, June 11 morning:** Environmental Health Case Studies: Mitigating Natural Hazards; Hazardous Waste Reclamation (Krutilla)

Readings:
**Session 30, June 11 afternoon:** No class

**Session 31, June 14 morning:** Occupational Health and Safety Case Studies: Prevention and Treatment (Krutilla)

Readings:

**Session 32, June 14 afternoon:** Environmental Case study: Energy Conservation and the Global Environment (Krutilla)

Readings:

**Session 33, June 15 morning:** Economic Evaluation of Medical and Safety Programs in Practice (Krutilla)

Topics: Practical methodology issues; common methodology approaches and tradeoffs; frequent errors in economic evaluations of health and safety programs.

Readings:

**Session 34, June 15 afternoon:** Do Decision Makers Use Economic Evaluation? (Krutilla)

Readings:

**Sessions 35-39, June 16 – June 18 morning:** Student presentations (Krutilla-Segui-Gomez)

**Session 40, June 18 afternoon:** No class. Adios!