

JUL 23 2008

New Course Request

Indiana University

Indy Campus

Check Appropriate Boxes: Undergraduate credit [] Graduate credit [X] Professional credit [] 87

- 1. School/Division Medicine/Public Health 2. Academic Subject Code PBHL
3. Course Number P657 4. Instructor Rong
5. Course Title Application of Cost Effectiveness Analysis in Public Health
6. First time this course is to be offered (Semester/Year): Spring 2008
7. Credit Hours: Fixed at 3 or Variable from - to -
8. Is this course to be graded S-F (only)? Yes No [X]
9. Is variable title approval being requested? Yes No [X]
10. Course description (not to exceed 50 words) for Bulletin publication: Cost-effectiveness analysis is widely used in evaluating the performance of public health programs and policies. In this course, students will learn to frame the conceptual model, to collect and synthesize data regarding "cost" and "effectiveness", to perform a cost-effectiveness analysis, and to form recommendations based on the analysis.
11. Lecture Contact Hours: Fixed at 3 or Variable from - to -
12. Non-Lecture Contact Hours: Fixed at - or Variable from - to -
13. Estimated enrollment: 30 of which 100 percent are expected to be graduate students.
14. Frequency of scheduling: F, S, Sum Will this course be required for majors? Yes
15. Justification for new course: This new course is needed to reflect current information and trends in public health policy.
16. Are the necessary reading materials currently available in the appropriate library? Yes
17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other materials.
18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant.
19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Submitted by:

Gregory Wilson MD Date 4/16/08
Department Chairman/Division Director

Approved by:

Ray B. Legman MD Date 2/18/08
Dean

[Signature] Date 7/24/08
Dean of Graduate School (when required)

[Signature] Date 7/18/08
Chancellor/Vice-President

[Signature] Date 4/12/08
APPROVED APR 09 2008
Dept Curriculum Subcommittee

University Enrollment Services Date

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President.

UPS 724

University Enrollment Services Final - White; Chancellor/Vice-President - Blue; School/Division - Yellow; Department/Division - Pink; University Enrollment Services Advance - White

Indiana University School of Medicine
Department of Public Health

Course: Applications of cost-effectiveness analysis in public health

Number: P650

Date: Spring 2008, Monday 6 – 8:40 pm

Faculty:

Nan Rong PhD, MPH

Phone: (317) 274-3245

Office: 715 N. Senate EF 250

E-mail: nrong@iupui.edu

Office hours: Monday 4 – 6 pm

Course Description

Cost-effectiveness analysis is widely used in evaluating the performance of public health interventions, programs and policies. In this course, students will learn to frame the conceptual model, to collect and synthesize data regarding “cost” and “effectiveness”, to perform a cost-effectiveness (or cost-benefit) analysis, and to form recommendations based on the analysis. Meta-analysis and various methods for measuring health-related preferences will be introduced as essential tools for data collection in cost-effectiveness analyses. Learning will be facilitated by numerous examples of the application of this popular method, including ones that the students will select from their own field of work.

MPH Program Competencies

This course will address the following MPH Program Competencies:

- D. Demonstrate analytic and assessment proficiency when formulating hypotheses, evaluating the integrity and comparability of data, and identifying gaps in data resources.
- J. Make presentations in support of a particular public health proposal using demographic, statistical, programmatic and scientific information.
- M. Understand appropriate uses and limitations of both quantitative and qualitative data, and make relevant inferences from such data.
- O. Advocate for public health programs and resources.

Educational Objectives

At the conclusion of this course, the student should be able to:

1. Identify problems and situations in health care and public health in which cost-effectiveness analysis (or cost-benefit analysis) is appropriate
 2. Frame a conceptual model for cost-effectiveness analysis
 3. Use meta-analysis and preference-based measurements to collect/derive effectiveness data
 4. Access various sources of cost data including commonly used electronic databases
 5. Address various issues associated with cost data
 6. Conduct a cost-effectiveness including a sensitivity analysis
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7. Provide recommendations regarding public health interventions, programs and policies based on the conclusion of the cost-effectiveness analysis
8. Understand the political, legal and ethical issues in the application of cost-effectiveness analysis in health care and public health

Required text

Petitti, D.B. (2000). *Meta-analysis, decision analysis, and cost-effectiveness analysis: Methods for quantitative synthesis in medicine* (2nd ed.). New York, NY: Oxford University Press.

Recommended text

1. Muennig, Peter (2002). *Designing and conducting cost-effectiveness analyses in medicine and health care*. San Francisco, CA: Jossey-Bass.
2. Alemi, F. (2006). *Decision analysis for healthcare managers*. Chicago, IL: Health Administration Press.
3. Neumann, P. (2005). *Using cost-effectiveness analysis to improve health care: Opportunities and barriers*. New York, NY: Oxford University Press.

Evaluation and Grading

1. In-class activities and class participation	15 points
2. Homework assignments	45 points
3. Course project written report	40 points
• Description of question and conceptual model	10 points
• Collection and summary of cost and effectiveness data	10 points
• Analysis	5 points
• Sensitivity analysis	10 points
• Quality of writing	5 points
Total	100 points

The grading scale is as follows:

Letter	Points	Letter	Points
A	94 to 100	C+	77 to 79
A-	90 to 93	C	73 to 76
B+	87 to 89	C-	70 to 72
B	83 to 86	F	69 or less
B-	80 to 82		

Course Content topic outline

Date	Content	Readings & Assignments
1/7	Introduction 1. Introductions and course overview 2. Introduction to cost-effectiveness analysis (CEA) through examples 3. The linkage between CEA, decision analysis and meta-analysis	Petitti Chapter 1, 2
1/14	Building a conceptual model for CEA – I 1. Component of a decision tree 2. How to build a basic decision tree?	*Supplemental reading (Start looking for a project topic.)
1/21	No class	
1/28	Building a conceptual model for CEA – II 1. Complex decision trees with more than two alternatives and/or more than one outcome 2. Modeling time-related processes with Markov models	Petitti Chapter 9 (excluding 9.4)
2/4	Workshop I 1. In-class exercises on building a simple decision tree and the use conditional probabilities 2. Student presentation of project topic	(Start building your own decision tree.)
2/11	Dealing with effectiveness data 1. Types of effectiveness data 2. Three commonly used methods for measuring health-related preferences 3. Deriving preference-based measures from utility estimates	Petitti Chapter 9.4, 11, 13
2/18	Dealing with cost data 1. Perspective of analysis 2. Common contributors to cost 3. Time horizon, discounting and inflation	Petitti Chapter 12
2/25	Getting ready to conduct meta-analysis 1. Conducting literature search effectively 2. Screening the literature efficiently 3. Organizing references using Reference Manager	Petitti Chapter 4, 6
3/3	Collecting data using meta-analysis 1. An introduction to meta-analysis 2. Statistics in meta-analysis	Petitti 7, 8, 10
3/10	Spring break	
3/17	Workshop II 1. In-class exercises on Markov model,	(Start data retrieval.)

	discounting, inflation and meta-analysis 2. Student update on projects, critique by instructor	
3/24	Conducting the analysis 1. Conducting CEA 2. Conducting sensitivity analyses	Petitti Chapter 15 *Supplemental readings
3/30	Workshop III In-class exercises on CEA with a simple decision tree, CEA with Markov model, and sensitivity analysis	
4/7	1. Introduction to cost benefit analysis 2. Introduction to program evaluation 3. Introduction to generalized CEA	Petitti Chapter 13 *Supplemental readings
4/14	Ethical, political and legal issues in CEA	*Supplemental readings
4/21	Voluntary question session	
4/28	No class	Final project report due

* For February 25 class, please bring your laptop (if you have one). Before class, download Reference Manager 11 from IU and install it onto your laptop. Instructions regarding the download will be provided. Make sure that your laptop is configured for wireless internet access.

* Supplemental readings are will be available on OnCourse.

Students with disabilities

Students needing accommodations because of disability will need to register with Adaptive Educational Services (AES) and complete the appropriate forms issued by AES before accommodations will be given. The AES office is located in CA 001E and you can reach the office staff by calling 274-3241.

Course Evaluation

The Department of Public Health evaluates all courses. Student course evaluations will be conducted in a manner that maintains the integrity of the process and the anonymity of respondents.

Academic integrity

Academic and personal misconduct by students in this class are defined and dealt with according to the procedures in the Student Misconduct section of the [IUPUI Code of Student Rights, Responsibilities and Conduct](#).

Building security

- Monday – Thursday the security guard will delay starting rounds until after 6:30 p.m. and will instead remain at the desk on the canal level to assist with students who arrive late. However, if a situation in the building or outside the building arises, the security guard will need to leave the desk and attend to the matter.

- The phone number for the security guard is 630-9033. The security guard carries a phone at all times.
 - If faculty, staff, or students need assistance to their vehicle for safety reasons, please contact security at 630-9033.
 - All students, including those in the computer lab or library, must leave the building when class ends, unless they are meeting with a faculty or staff member. This is for their personal safety, as well as the safety and security of all tenants in our building.
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