



UNIVERSITY OF  
**SOUTH CAROLINA**

Arnold School of Public Health  
*Department of Health Services Policy and Management*

## **SYLLABUS**

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**Course:** Cost-Benefit Analysis in Health  
**Number:** HSPM 708  
**Semester:** Spring 2013  
**Logistics:** Tuesdays 2:00 – 4:30 PM  
**Classroom:** PSC 205 (Jones Physical Science Center)

**Professor:** Dr. Vahé Heboyan and Dr. M. Mahmud Khan

### **Contacts**

E-mail: vheboyan@sc.edu  
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### **Office Hours**

Days(s) of week: Tuesday or by appointment  
Time: 1:00 – 2:00 PM  
Location: Suite 323, Health Sciences building

**Teaching Assistant:** None

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### **Course Description**

This is an introductory course on economic evaluation applied to health interventions and programs. The emphasis will be on the applied aspects of economic evaluation including the measurements of costs, effectiveness and benefits. Although the course will provide some theoretical underpinnings of cost-benefit analysis in health, the focus of the course is on practical skills and tools needed to conduct economic evaluations.

### **Learning Outcomes**

By the end of this course, the student will:

1. Have a thorough understanding and knowledge of concepts and principles of economic evaluation methods and techniques.
2. Understand and articulate strengths, weaknesses, and limitations of various economic evaluation approaches.
3. Have an ability to select the most appropriate evaluation approach based on constraints and institutional needs.
4. Critically analyze economic evaluations conducted by others.
5. Apply economic evaluation concepts and tools to real-world policy analysis.
6. Evaluate and compare alternative policies and programs.
7. Develop an economic evaluation proposal for research and/or funding purposes.
8. Have a genuine understanding of career options using tools and knowledge acquired through this course.

## Course Requirements

- **Final Exam** (30%). There will be one exam given at the end of course which covers all material learned during the semester. It is an in-class closed-book exam.
- **Homework** (20%). Four homework assignments will be given during the semester, which aim at reinforcing the concepts learned during the class and prepare you for the exam.
- **Quiz** (20%). Five quizzes will be assigned throughout the semester to test the material learned since the last quiz.
- **Case Studies** (20%). Two case studies will be assigned during the semester for investigation and problem solving. This is a team project. Each group will prepare a short report as well as power-point presentation slides on the case study.
- **Class attendance and participation** (10%).

For the team project, students are required to form two-person groups and the names of students in the groups should be communicated to the instructor by the second week of the semester.

## Text and Other Resources

### Required Textbook

Drummond, M.F., M.J. Sculpher, G.W. Torrance, B.J. O'Brien, and G.L. Stoddart. *Methods for the Economic Evaluation of Health Care Programmes*, 3<sup>rd</sup> ed. Oxford: Oxford University Press, 2005.

### Other reference texts (not required)

- Muenning, P. "Cost-Effectiveness Analysis in Health: A Practical Approach." Jossey-Bass, 2008
- Boardman, A. D. Greenberg, A. Vining, and D. Weimer "*Cost-Benefit Analysis, Concepts and Practice*". Pearson/Prentice-Hall, 4th edition, 2011.
- Haddix AC, Teutsch SM, Corso PS. *Prevention Effectiveness: A Guide to Decision Analysis and Economic Evaluation*. Oxford University Press. 2002.

## POLICIES AND PROCEDURES

### **Instructional Methods**

The course will be taught using multiple instructional methods. These methods will include lecture, case study analysis, team projects, and oral presentations with an associated critical discussion.

### **Grading Scale**

[90-100] = A            [87-89] = B+            [80-86] = B            [70-79] = C            [0-69] = F

### **Attendance Policy**

When you miss class, you miss important information. If you are absent, you are responsible for learning material covered in class. If you are absent when an assignment is due, you must have submitted the assignment prior to the due date to receive credit. Quizzes and final exam can only be completed during the scheduled time. If you miss first two class sessions, you will be dropped from the course. Missing more than three class sessions will mean that the student will be assigned a score of zero in class attendance and participation section of grading.

### **Expectations for Classroom Behavior**

All cell phones and pagers are to be turned off or silenced during class (not on vibrate). All cell phones are to be put away out of view during class (no text messaging, web browsing, etc., during class). No computers, tablets, or similar devices are allowed to be used during the class, unless otherwise instructed by the instructor. Eating in the class is not allowed unless it is a medical necessity supported by a note from a doctor. Failure to adhere to these classroom rules may result in your being dismissed from class and/or an academic penalty.

### **Accommodating Disabilities**

Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, contact the Office of Student Disability Services: 777-6142, TDD 777-6744, email [sasds@mailbox.sc.edu](mailto:sasds@mailbox.sc.edu), or stop by LeConte College Room 112A. All accommodations must be approved through the Office of Student Disability Services.

### **Academic Integrity**

Assignments and examination work are expected to be the sole effort of the student submitting the work. You are expected to follow the University of South Carolina Honor Code and should expect that every instance of a suspected violation will be reported. Any violation of academic integrity will be subject to academic penalties in addition to disciplinary sanctions. Cheating on a test or copying someone else's work, will result in a 0 for the work, possibly a grade of F in the course, and, in accordance with University policy, the instructor may refer the student to the University Committee for Academic Responsibility.

### **Feedback**

Feedback on the course is always welcome. You can provide the feedback directly to the instructors or to the department.

## Course Content

| №   | Topic   | Reading                        |
|-----|---|--------------------------------|
| 1.  | <b>Introduction to economic evaluation</b>  | Drummond, Chapter 2            |
| 2.  | <b>Types of economic evaluation</b> <ol style="list-style-type: none"> <li>a. Cost-minimization analysis</li> <li>b. Cost-effectiveness analysis</li> <li>c. Cost-utility analysis</li> <li>d. Cost-benefit analysis</li> </ol> | Drummond, Chapter 2            |
| 3.  | <b>Costing in health care and public health intervention</b> <ol style="list-style-type: none"> <li>a. Perspective of costing</li> <li>b. Economic and financial costs</li> <li>c. Definitions</li> </ol>                       | Drummond, Chapter 3            |
| 4.  | <b>Costing methods</b> <ol style="list-style-type: none"> <li>a. Macro costing</li> <li>b. Micro costing</li> </ol>   | tba                            |
| 5.  | <b>Case studies in costing</b>  | tba                            |
| 6.  | <b>Cost-effectiveness analysis</b>  | Drummond, Chapter 5            |
| 7.  | <b>Cost-utility analysis</b>  | Drummond, Chapter 6            |
| 8.  | <b>Cost-benefit analysis</b>  | Drummond, Chapter 7            |
| 9.  | <b>Choosing the right evaluation approach</b>   | tba                            |
| 10. | <b>Valuation of Impacts</b> <ol style="list-style-type: none"> <li>a. Monetizing impacts</li> <li>b. Valuing Impacts from Observed Behavior</li> <li>c. Contingent Valuation</li> </ol>   | Boardman et al, Chapters 11-15 |
| 11. | <b>Decision analysis</b>  | Drummond, Chapter 9            |
| 12. | <b>Data mining and working with data</b>  | tba                            |
| 13. | <b>Forecasting and sensitivity analysis</b>   | tba                            |

### Daily Schedule<sup>1</sup>

| Week | Month | Date  | Topic   | Assignment                       | Reading <sup>2</sup>             | Learning Objective <sup>3</sup> |
|------|-------|-------|---|----------------------------------|----------------------------------|---------------------------------|
| 1    |       | 15    | Introduction to economic evaluation<br>Types of economic evaluation                                       |                                  | Drummond, Ch 2, 3                | 1                               |
| 2    | Jan   | 22    | Costing<br>- Costing in health care and public health intervention<br>- Costing methods                   |                                  | Drummond, Ch 4<br>Handout        | 2                               |
| 3    |       | 29    | Case studies in costing   | Quiz 1<br>HW 1                   | Handout                          | 5                               |
| 4    |       | 5     | Cost-effectiveness analysis   | HW 1 due                         | Drummond, Ch 5                   | 2                               |
| 5    |       | 12    | Cost-utility analysis   | HW 2                             | Drummond, Ch 6                   | 2                               |
| 6    | Feb   | 19    | Cost-benefit analysis   | Quiz 2<br>HW 2 due<br>Case 1     | Drummond, Ch 7                   | 2                               |
| 7    |       | 26    | Choosing the right evaluation approach<br>Developing proposals for economic evaluation and research       |                                  | Handout                          | 2, 3, 4, 7                      |
| 8    |       | 5     | Valuation of impacts<br>- monetizing impacts<br>- valuing impacts from observed behavior (direct methods) | Quiz 3<br>Case 1<br>presentation | Boardman et al,<br>Ch 11, 12, 13 | 5, 6                            |
| 9    | Mar   | 12    | Spring Break – no class   |                                  |                                  |                                 |
| 10   |       | 19    | Valuation of impacts<br>- valuing impacts from observed behavior (indirect methods)                       | HW 3                             | Boardman et al, Ch 14<br>Handout | 5, 6                            |
| 11   |       | 26    | Valuation of impacts<br>- contingent valuation  | HW 3 due<br>Case 2               | Boardman et al, Ch 15<br>Handout | 5, 6                            |
| 12   |       | 2     | TBD   | Quiz 4                           |                                  |                                 |
| 13   |       | 9     | Decision analysis   | HW 4<br>Case 2<br>presentation   | Drummond, Ch 9                   | 5, 6                            |
| 14   | Apr   | 16    | Data mining and working with data<br>Forecasting and sensitivity analysis                                 | HW 4 due                         | Handout                          | 5                               |
| 15   |       | 23    | TBD   | Quiz 5                           |                                  |                                 |
| 16   |       | 30    | Reading Day / Review  |                                  |                                  |                                 |
| 17   | May   | 1 – 8 | Final exam ( <i>exact date and time will be announced once published by University</i> )                  |                                  |                                  | 1 - 7                           |

<sup>1</sup> The *Daily Schedule* is tentative and is subject to change. Any deviations will be announced by the instructor in a due time.

<sup>2</sup> Reading material from sources other than Drummond *et al.* will be provided by the instructor either in hardcopy or electronic file.

<sup>3</sup> Corresponds to the Learning Outcomes on page 1.