PHA5267: Principles of Pharmacoeconomics
Fall 2019
1 Credit Hour – [A-E Grading]

The purpose of this course is to introduce students to the fundamental methods of pharmacoeconomic analysis. Topics include the terminology used in pharmacoeconomics, research methods frequently used in pharmacoeconomics, and the role of pharmacoeconomics in the drug development process and health care decision making relevant to the practice of pharmacy. These principles will prepare the student for future coursework where the student will develop and implement individualized treatment plans, taking into consideration pharmacoeconomic factors.

Teaching Partnership Leader
Haesuk Park, Ph.D.
• Email: hpark@cop.ufl.edu
• Office: HPNP 3325
• Phone: 352-273-6261
• Office Hours: 3PM – 4PM on the following days; 9-25 (Wed), 9-27 (Fri), 9-30 (Mon), and Oct 2 (Wed) [Attendance is optional via Zoom].

See Appendix A. for Course Directory of Faculty and Staff Contact Information.

Entrustable Professional Activities
This course will prepare you to perform the following activities which the public entrusts a Pharmacist to perform:
12. Use evidence-based information to advance patient care.
   • ST12.1 Retrieve and analyze scientific literature to make a patient-specific recommendation.

Course-Level Objectives
Upon completion of this course, the student will be able to:
1. Describe fundamental concepts behind rationing and economic evaluation of health care.
2. Explain the role of pharmacoeconomics in the drug development process and health care decision making.
3. Identify the role of perspective in the selection of study parameters and their impact on study design, costs, and the interpretation of results.
4. Define and describe cost-minimization analysis, cost-effectiveness analysis, cost-utility analysis, and cost-benefit analysis.
5. Outline strengths and weaknesses of standard pharmacoeconomic approaches to assess the economic impact of pharmaceutical interventions, including cost-minimization analysis, cost-effectiveness analysis, cost-utility analysis, and cost-benefit analysis.
6. Explain decision making tools such as cost-effectiveness and cost-benefit analysis and discuss their application to resource allocation, how these tools are used in practice, and what factors limit their use or interpretation.
7. Summarize applications of economic, clinical, and humanistic outcomes to improve allocation of limited health care resources and interpret pharmacoeconomic studies.
8. Apply knowledge of pharmacoeconomic approaches for performing a decision analysis
9. Describe the importance of measuring health-related quality of life.
10. Define the methods for assessing the psychometric properties of health related quality of life instruments, such as reliability, validity and responsiveness.
11. Critique the results of articles that use the following analyses that measure and estimate costs:
   a. Cost-minimization analysis
   b. Cost-effectiveness analysis
   c. Cost-utility analysis
   d. Cost-benefit analysis
   e. Decision analysis

Course Pre-requisites
1. Completion of all Year 1 Pharm.D. program coursework including milestones.

Course Co-requisites
1. There are no co-requisites for this course.

Course Outline
Please routinely check your campus calendar and the Canvas course site for any messages about changes in the schedule including meeting dates/times, deadlines, and room changes.
<table>
<thead>
<tr>
<th>2.2</th>
<th>Watch: Critiquing Research Article</th>
<th>0.25</th>
<th>Park</th>
<th>3-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/24/19</td>
<td>3 Module 3: Cost-Minimization Analysis and Cost-Effectiveness Analysis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Watch: Cost-Minimization Analysis</td>
<td>0.25</td>
<td>Park</td>
<td>3-5, 11</td>
</tr>
<tr>
<td>3</td>
<td><strong>Read:</strong> &quot;Cost-effectiveness analysis of adding pharmacists to primary care teams to reduce cardiovascular risk in patients with Type 2 diabetes: results from a randomized controlled trial&quot;</td>
<td>0.5</td>
<td>Park</td>
<td>3-5, 11</td>
</tr>
<tr>
<td>9/24/19</td>
<td>3.2 Watch: Cost-Effectiveness Analysis</td>
<td>1</td>
<td>Park</td>
<td>3-5, 11</td>
</tr>
<tr>
<td>9/25/19</td>
<td>4 Module 4: Cost-Utility Analysis</td>
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<td></td>
<td></td>
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<tr>
<td>4</td>
<td><strong>Read:</strong> &quot;Cost-Utility Analysis of the Cochlear Implant in Children&quot; Cheng et al. JAMA 2000;284:850-856.</td>
<td>0.5</td>
<td>Park</td>
<td>3-6, 11</td>
</tr>
<tr>
<td>4.1</td>
<td>Watch: Lecture 4.1: Cost Utility Analysis Part 1</td>
<td>1</td>
<td>Park</td>
<td>3-6, 11</td>
</tr>
<tr>
<td>4.2</td>
<td>Watch: Lecture 4.2: Cost Utility Analysis Part 2</td>
<td>0.5</td>
<td>Park</td>
<td>3-6, 11</td>
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</table>

**Available**: 9AM  
**Due**: 9PM


| 9/26/19 | 5 Module 5: Cost-Benefit Analysis | | | |
| 5 | **Read:** "A Pharmacy-Based Health Promotion Programme in Hypertension" Cote et al. Pharmacoeconomics 2003; 21 (6): 415-428. | 0.75 | Park | 3-6, 11 |
| 5.1 | Watch: Lecture 5.1: Cost Benefit Analysis Part 1 | 1 | Park | 3-6, 11 |
| 5.2 | Watch: Lecture 5.2: Cost Benefit Analysis Part 2 | 0.5 | Park | 3-6, 11 |
| 9/27/19 | 6 Module 6: Decision Analysis | | | |
| 6.1 | Watch: Lecture 6.1: Decision Analysis Part 1 | 1 | Park | 3-7, 9-11 |
| 6.2 | Watch: Lecture 6.2: Decision Analysis Part 2 | 0.5 | Park | 3-7, 9-11 |
| 9/27/19 @ 10:40am-12:35pm | 1-6 Active Learning Session 1 (2 hours) | | | |
| | 1-6 | ALS 1: Application Activity | 1 | Park | 3-7, 9-11 |
| 9/30/19 | 7 Module 7: Health-Related Quality of Life | | | |
| 7 | Watch: Health-Related Quality of Life | 1.25 | Park | 3-7, 9-11 |
Required Textbooks/Readings

   a. Available via HSC Library

   a. Available on PubMed

   a. Available on PubMed

   a. Available on PubMed

Use UF VPN to access UF Libraries Resources when off-campus. The UF HSC library staff can assist you with questions or issues related to accessing online library materials. For assistance contact your College of Pharmacy librarian or visit the HSC Library Website at this URL: http://www.library.health.ufl.edu/

Suggested Textbooks/Readings

Suggested materials will be posted on Canvas.


Other Required Learning Resources

None

Materials & Supplies Fees

None
Student Evaluation & Grading

Table 1. Evaluation Methods and How Grades are calculated.

<table>
<thead>
<tr>
<th>Assessment Item</th>
<th>Grade Percentage</th>
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</thead>
<tbody>
<tr>
<td>Online Quiz [1]</td>
<td>5%</td>
</tr>
<tr>
<td>iRAT [2]</td>
<td>10%</td>
</tr>
<tr>
<td>tRAT [2]</td>
<td>15%</td>
</tr>
<tr>
<td>Problem-Solving Activity</td>
<td>10%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>60%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Rounding of grades:
Final grades in Canvas will be rounded to the 2nd decimal place. If the decimal is X.495 or higher, Canvas will round the grade to X.50. The above scale depicts this policy and grades are determined accordingly. Grade assignment is made using this policy and NO EXCEPTIONS will be made in situations where a student’s grade is “close.”

Table 2. Grading Scale

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Letter Grade</th>
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</thead>
<tbody>
<tr>
<td>92.50-100%</td>
<td>A</td>
</tr>
<tr>
<td>89.50-92.49%</td>
<td>A-</td>
</tr>
<tr>
<td>86.50-89.49%</td>
<td>B+</td>
</tr>
<tr>
<td>82.50-86.49%</td>
<td>B</td>
</tr>
<tr>
<td>79.50-82.49%</td>
<td>B-</td>
</tr>
<tr>
<td>76.50-79.49%</td>
<td>C+</td>
</tr>
<tr>
<td>72.50-76.49%</td>
<td>C</td>
</tr>
<tr>
<td>69.50-72.49%</td>
<td>C-</td>
</tr>
<tr>
<td>66.50-69.49%</td>
<td>D+</td>
</tr>
<tr>
<td>62.50-66.49%</td>
<td>D</td>
</tr>
<tr>
<td>59.50-62.49%</td>
<td>D-</td>
</tr>
<tr>
<td>&lt; 59.50%</td>
<td>E</td>
</tr>
</tbody>
</table>

Educational Technology Use

The following technology below will be used during the course and the student must have the appropriate technology and software:

- ExamSoft™ Testing Platform
- Canvas™ Learning Management System

For technical support, navigate to Educational Technology and IT Support Contact Information at this URL: http://curriculum.pharmacy.ufl.edu/current-students/technical-help/

Pharm.D. Course Policies

The Policies in the following link apply to this course. Review the Pharm.D. Course Policies carefully, at this URL: http://curriculum.pharmacy.ufl.edu/current-students/course-policies/
Appendix A. Course Directory

Teaching Partnership Leader/Course Director:

Haesuk Park, Ph.D.
- Email: hpark@cop.ufl.edu
- Office: HPNP 3325
- Phone: 352-273-6261

Questions to Ask:
- Questions about grades
- Concerns about performance
- Guidance when there are performance problems (failing grades)
- General questions about content

Instructional Designer:

Name: Julie Thomas, MEd
Email: julie.thomas@ufl.edu
Office: HPNP 4309
Phone: 352-273-6284

Academic Coordinator:

Name: Nicole Marlowe
Email: nicolemarlowe@cop.ufl.edu
Office: HPNP 4312
Phone: 352-294-2242

Educational Coordinators:

Name: McKenzie Wallen
Email: mwallen@cop.ufl.edu
Office: Jacksonville Campus

Name: Iverta Allen
Email: iallen1@cop.ufl.edu
Office: Orlando Campus

Questions to Ask:
- Issues related to course policies (absences, make up exams, missed attendance)
- Absence requests (Only the Academic Coordinator handles absence requests)
- Questions about dates, deadlines, meeting place
- Availability of handouts and other course materials
- Assignment directions
- Questions about grade entries gradebook (missing grades, wrong grade)
- Assistance with ExamSoft® (Distant campus students may contact Education Coordinator for use of SofTest and assistance during exams. The Academic Coordinator is the contact person for issues related to grading and posting of ExamSoft grades.)