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# PHA5267: Principles of Pharmacoeconomics

Fall 2018

1 Credit Hour – [A-E Grading]

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*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.*

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## Teaching Partnership Leader

Haesuk Park, Ph.D.

- Email: [hpark@cop.ufl.edu](mailto:hpark@cop.ufl.edu)
- Office: HPNP 3325
- Phone: 352-273-6261
- Office Hours: 2PM – 3PM on the following days; 9-26 (Wed), 9-28 (Fri), 10-01 (Mon), and Oct 4 (Thurs) [Attendance is optional via Big Blue Button].

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.

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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.

Date and Time	Mod#	Unit Topic	Contact Time [hr.]a	Faculty Author	Learning Objectives
09/24/18	1	Module 1: Course Overview		Haesuk Park	1-3
09/24/18	1	Watch: Introduction to the Course	0.5	Haesuk Park	1-3

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Date and Time	Mod#	Unit Topic	Contact Time [hr.]a	Faculty Author	Learning Objectives
09/24/18	2	Module 2: Measuring and Estimating Cost and Critiquing Research Article		Haesuk Park	3-5
09/24/18	2.1	Watch: Measuring Costs	1	Haesuk Park	3-5
09/24/18	2.2	Watch: Critiquing Research Article	0.25	Haesuk Park	3-5
09/25/18	3	Module 3: Cost-Minimization Analysis and Cost-Effectiveness Analysis		Haesuk Park	3-5,11
09/25/18	3	Read: Estimated Cost-Effectiveness, Cost Benefit, and Risk Reduction Associated with an Endocrinologist-Pharmacist Diabetes Intense Medical Management "T... - PubMed - NCBI	0.5	Haesuk Park	3-5,11
09/25/18	3.1	Watch: Cost-Minimization Analysis	0.25	Haesuk Park	3-5,11
09/25/18	3.2	Watch: Cost-Effectiveness Analysis	1	Haesuk Park	3-5,11
09/26/18	4	Module 4: Cost-Utility Analysis		Haesuk Park	3-6, 11
09/26/18	4	Read: The Costs and Cost-effectiveness of Collaborative Care for Adolescents With Depression in Primary Care Settings: A Randomized Clinical Trial. - PubMed - NCBI	0.5	Haesuk Park	3-6, 11
09/26/18	4.1	Watch: Lecture 4.1: Cost Utility Analysis Part 1	1	Haesuk Park	3-6, 11
09/26/18	4.2	Watch: Lecture 4.2: Cost Utility Analysis Part 2	0.5	Haesuk Park	3-6, 11
09/26/18 Available : 9AM Due: 9PM	1-4	Assignment: Online Quiz 1 - Covering Article 1: "Estimated cost-effectiveness, cost benefit, and risk reduction associated with an endocrinologist-pharmacist diabetes intense medical management " Tune-Up" clinic" Hirsch et al. Journal of Managed Care & Specialty Pharmacy 2017;23(3):318-326.23(3):318-326.		Haesuk Park	3-6, 11
09/27/18	5	Module 5: Cost-Benefit Analysis		Haesuk Park	3-6, 11
09/27/18	5	Rascati Karen L. Essentials of Pharmacoeconomics, Second Edition, Lippincott Williams & Wilkins, 2013; ISBN -10 number: 1451175930: Chapter 7	1.75	Haesuk Park	3-6, 11
09/27/18	5	"A Pharmacy-Based Health Promotion Programme in Hypertension" Cote et al. Pharmacoeconomics 2003; 21 (6): 415-428.	0.75	Haesuk Park	3-6, 11
09/27/18	5.1	Watch: Lecture 5.1: Cost Benefit Analysis Part 1	1	Haesuk Park	3-6, 11
09/27/18	5.2	Watch: Lecture 5.2: Cost Benefit Analysis Part 2	0.5	Haesuk Park	3-6, 11
09/28/18	6	Module 6: Decision Analysis		Haesuk Park	3-7, 9-11

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Date and Time	Mod#	Unit Topic	Contact Time [hr.]a	Faculty Author	Learning Objectives
09/28/18	6.1	Watch: Lecture 6.1: Decision Analysis Part 1	1	Haesuk Park	3-7, 9-11
09/28/18	6.2	Watch: Lecture 6.2: Decision Analysis Part 2	0.5	Haesuk Park	3-7, 9-11
09/28/18	7	Module 7: Health-Related Quality of Life		Haesuk Park	3-7, 9-11
09/28/18	7	Watch: Health-Related Quality of Life	1.25	Haesuk Park	3-7, 9-11
10/01/18 10:40 AM	1-7	Active Learning Session 1 (2 hours)	2	Haesuk Park	3-7, 9-11
10/01/18	1-7	RAT 1 - Covering Article 2: "The costs and cost-effectiveness of collaborative care for adolescents with depression in primary care setting: a randomized clinical trial " Wright et al. JAMA Pediatrics 2016;170(11):1048-1054.		Haesuk Park	3-7, 9-11
10/03/18 GNV: 8:30 AM JAX/ORL : 10:40 AM	1-7	Active Learning Session 2 (2 hours)	2	Haesuk Park	3-7, 9-11
10/03/18	1-7	RAT 2 GNV - Covering Article 3: "A Pharmacy-Based Health Promotion Programme in Hypertension" Cote et al. Pharmacoeconomics 2003; 21 (6): 415-428.		Haesuk Park	3-7, 9-11
10/03/18	1-7	RAT 2 ORL/JAX - Covering Article 3: "A Pharmacy-Based Health Promotion Programme in Hypertension" Cote et al. Pharmacoeconomics 2003; 21 (6): 415-428.		Haesuk Park	3-7, 9-11
10/05/18 8:30 AM	1-7	Final Exam (2 hours)		Haesuk Park	1-11
		<b>Total Contact Hours</b>	<b>16.25</b>		

## Required Textbooks/Readings

- Rascati Karen L. Essentials of Pharmacoeconomics, Second Edition, Lippincott Williams & Wilkins, 2013; ISBN- 13: 978-1451175936; ISBN -10 number: 1451175930
  - Available via HSC Library
- Article 1: "Estimated cost-effectiveness, cost benefit, and risk reduction associated with an endocrinologist-pharmacist diabetes intense medical management " Tune-Up" clinic" Hirsch et al. Journal of Managed Care & Specialty Pharmacy 2017;23(3):318-326.
  - Available on PubMed

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3. Article 2: "The costs and cost-effectiveness of collaborative care for adolescents with depression in primary care setting: a randomized clinical trial " Wright et al. JAMA Pediatrics 2016;170(11):1048-1054.
  - a. Available on PubMed
4. Article 3: "A Pharmacy-Based Health Promotion Programme in Hypertension" Cote et al. Pharmacoeconomics 2003; 21 (6): 415-428.
  - 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.

1. Attanasio et al. "Cost-minimization analysis of simvastatin vs. atorvastatin for maintenance therapy in patients with coronary or peripheral vascular disease." Clinical therapeutics 2001.
2. Luce et al. "Methods of Cost-effectiveness analysis: Areas of consensus and debate." Clinical Therapeutics 1995.
3. Law et al. "Cost-effectiveness analyses of the conversion of patients with non-insulin-dependent diabetes mellitus from glipizide to glyburide and of the accompanying pharmacy follow-up clinic." Clinical Therapeutics 1995.
4. Athan et al. "Cost-effectiveness of routine and low-cost CD4 T-cell count compared with WHO clinical staging of HIV to guide initiation of antiretroviral therapy in resource-limited settings." AIDS 2010.
5. Jackson et al. "An employer-based cost-benefit analysis of a novel pharmacotherapy agent for smoking cessation." Journal of Occupational and Environmental Medicine 2007

## Other Required Learning Resources

None

## Materials & Supplies Fees

None

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## Student Evaluation & Grading

Table 1. Evaluation Methods and How Grades are calculated.

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

### 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

Percentage Range	Letter Grade
92.50-100%	A
89.50-92.49%	A-
86.50-89.49%	B+
82.50-86.49%	B
79.50-82.49%	B-
76.50-79.49%	C+
72.50-76.49%	C
69.50-72.49%	C-
66.50-69.49%	D+
62.50-66.49%	D
59.50-62.49%	D-
< 59.50%	E

## 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/>

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## Appendix A. Course Directory

### Teaching Partnership Leader/Course Director:

Haesuk Park, Ph.D.

- Email: [hpark@cop.ufl.edu](mailto: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: Shane Ryan, MEd

Email: [shane.ryan@ufl.edu](mailto:shane.ryan@ufl.edu)

Office: HPNP 4309

Phone: 352-294-5215

### Academic Coordinator:

Name: Nicole Marlowe

Email: [nicolemarlowe@cop.ufl.edu](mailto:nicolemarlowe@cop.ufl.edu)

Office: HPNP 4312

Phone: 352-294-2242

### Educational Coordinators:

Name: McKenzie Wallen

Email: [mwallen@cop.ufl.edu](mailto:mwallen@cop.ufl.edu)

Office: Jacksonville Campus

Name: Victoria Savosh

Email: [vsavosh@cop.ufl.edu](mailto:vsavosh@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.)

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## **Other Teaching Partnership Faculty Members:**

Robert Navarro, PharmD

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Phone: 352-273-5526