

University of Florida

PHA6286 Pharmaceutical Microeconomics

Fall A 2021 3 Credit Hours

Course Purpose

The purpose of this course is to analyze health care markets by using microeconomic tools. The course will explore the special features and complexities of healthcare markets and will focus on the analysis of consumption, production, and distribution of health and health care services with an emphasis on pharmaceutical products and services.

Course Faculty and Office Hours

Course Coordinator:

Joseph P. Fuhr Jr. Ph.D.

Email: j.fuhr@cop.ufl.edu

Phone:

Office Hours: Set up an appointment (All times Eastern).

Teaching Assistant:

None

Time of Class Sessions **Sunday** 7:00 p.m. – 9:00 p.m. (All times Eastern) unless noted otherwise in the syllabus or Canvas posting.

A pre-recorded lecture covering the assigned reading material is also available. Students are expected to listen to the lecture prior to attending the live class session.

Course Objectives

Upon successful completion of this course, the student will be able to:

- Describe the prominent economic theories and tools used for planning and decision-making in healthcare markets.
- Explain the economic forces that are responsible for the structure of our current healthcare system and the delivery of pharmaceuticals and pharmacy services within the system.

- Explain the determinants of supply and demand for pharmaceuticals, pharmacy and medical services, and insurance.
- Describe how the market structure and inherent incentives impact supply, demand, and price of healthcare services.
- Describe the rationale and the impact of government regulations in healthcare markets.

Pre-requisite Knowledge and Skills

None.

Course Structure and Outline Course Structure

Face-to-face class sessions, assignments and multiple self-directed learning activities are required (e.g., videos, readings, web-based learning, etc.)

Course Outline/Activities

Refer to Appendix A for the tentative class schedule, and to Appendix B for a detailed explanation of class schedule and activities.

Textbooks Required: Bhattacharya, Jay, Timothy Hyde, and Peter Tu. Health economics. Palgrave Macmillan, 2013.

Optional/recommended: Stephen Morris, Nancy Devlin, David Parkin, Anne Spencer. Economic Analysis in Healthcare, 2nd Edition. Wiley, 2012

Student Evaluation & Grading Evaluation Methods

Mid-term examination 25%

Course project 25%

Bi-weekly Topic Paper 20%

Presentations/discussions 20%

Discussion Board 10%

Bi-Weekly Topic Paper

You are expected to apply the material/concepts learned by submitting a topic paper every other week.

- Topic paper should be single-spaced with one-inch margins and at most one page long using Times New Roman 12- point font. The paper should be well-organized and written in a professional tone. In other words, you will be expected to define the main concepts in the

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questions (topics), present arguments in favor and against, as needed, and provide your final position on the topic. It should be concise and relate to the class material.

Weekly Presentation

You are expected to apply the material/concepts learned by preparing a group presentation or participating in the discussion every week.

- Presentations should be uploaded to Canvas by 1 pm the day of the presentation so that it can be posted for the class and the discussant group in advance. Presentations should be about 20-30 minutes long, followed by a 10-minute formal discussion by the discussant group in the first hour of the two-hour live meeting on **Sundays**.

Discussion Board

A discussion board is available for your use in the weekly folder on Canvas. Please use this to clarify your understanding of the material by posting questions or comments about the material for your classmates. It is expected that members of the class will respond to questions and expand the discussion. The instructor will only comment to clarify misunderstandings. If you identify an article that is pertinent to the class, feel free to post it. If you do post an article or a link to an article give your classmates, the courtesy of a brief description of the article and how/why it relates to the topic of the week.

Mid-term exam

The exam will consist of an open book essay exam that will cover the reading material and in-class discussions.

Course project

The course project assignment will consist of applying pharmaceutical microeconomic tools to analyze current issues of the healthcare system. The course project will be assigned to the students on the day of the first live meeting. Every week, in the second half of the two-hours live meeting, each person will present their progress on their course project and get feedback from classmates and the instructor.

On Sunday, **October 10**, all groups will deliver a 15-minute presentation of their course project, followed by a 10- minute formal discussion. Please turn in your slide decks by 1 pm **October 10**.

A final written report will be due by **October 10** at 11:55 pm. The report will be in a paper format, should be single-spaced with one-inch margins and at most 6-page long using Times New Roman 12- point font.

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Grading Scale

95-100 = A

90-94 = A-

86-89 = B+

83-85 = B

80-82 = B-

76-79 = C+

73-75 = C

70-72 = C-

66-69 = D+

63-68 = D

60-62 = D-

<60=E

Current UF grading policies for assigning grade points may be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

Class Attendance Policy Attendance to live sessions is required.

Make-up Quiz/Exam Policy

Make-up exams for the exams will be given only if you have written official documentation of a valid excuse.

Assignment Deadlines

Late assignments will not be accepted.

General College of Pharmacy Course Policies

The College of Pharmacy has a website that lists course policies that are common to all courses. This website covers the following:

1. University Grading Policies
2. Academic Integrity Policy
3. How to request learning accommodations
4. Faculty and course evaluations
5. Student expectations in class
6. Discussion board policy
7. Email communications
8. Religious holidays
9. Counseling & student health

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10. How to access services for student success

Please see the following URL for this information: <http://www.cop.ufl.edu/wp-content/uploads/dept/studaff/policies/General%20COP%20Course%20Policies.pdf>

Complaints

Should you have any complaints with your experience in this course please visit:
<http://www.distancelearning.ufl.edu/student-complaints>

Faculty Evaluations

You will receive an email from the Curricular Affairs Office requesting that you complete the faculty evaluations. Please complete your faculty evaluations by the specified date and time by logging in with your GatorLink account at the following site: <https://evaluations.ufl.edu> Faculty evaluations are important feedback for your course instructors. Your input via evaluations can make a difference in our teaching activities, so participate, evaluate and our Masters program will be better for it. The online faculty evaluation system is completely anonymous. When you submit an evaluation, the system marks that you have submitted an evaluation for the course and section (so you cannot submit multiple evaluations), but from that point on, there is no connection between you and the evaluation data.

Appendix A - Class Schedule and related activities

Week	Date	Topic	Readings	Bi-weekly topic paper	Weekly presentation topic	Group assignment*	
						Presenter	Discussant
1	Sun, 22 August	Introduction to pharmaceutical microeconomics	Ch. 1	No paper due	No presentation		
2	Sun, 29 August	Demand for health and health care	Ch. 2-4	Is economic theory easily applicable to markets for pharmaceutical goods and services? Why, or why not? If not, briefly explain the distinctive features of these markets.	Does the price of healthcare affect health itself? Please use both the RAND HIE and the Oregon experiment to motivate your answer.	1	Rest of the class
3	Sun, 05 September	Supply of healthcare	Ch. 5-6	No paper due	Why might contract nurses, who are typically hired for short periods by hospitals to fill unexpected scheduling holes, tend to have negative impacts on patient outcomes? Speculate about the sorts of specific human capital that might give regular nurses an advantage over contract nurses in helping patients. Can this help explain the positive volume-outcome relationship observed in hospitals?	2	Rest of the class
4	Sun, 12 September	Information economics	Ch. 7-11	The Akerlof model can be used to model the health insurance market. In this market, which party is analogous to car buyers? Which party is analogous to car sellers? What would it mean for the health insurance market to unravel?	Pharmacy benefit managers (PBMs) are a component of the US healthcare system. Describe the nature of the agency relationship. What data would you gather to determine if asymmetric, imperfect, or perfect information exists in this market? What would be your policy recommendation (if at all) to correct this?	3	Rest of the class
5	Sun, 19 September	No Class – Midterm Exam due at 11:55 pm Eastern Time Zone		No Paper due	No presentation		

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Week	Date	Topic	Readings	Bi-weekly topic paper	Weekly presentation topic	Group assignment*	
						Presenter	Discussant
6	Sun, 26 September	Economics of health innovation	Ch. 12- 14	Explain how medications are currently priced (how are prices determined?). Is this mechanism the most optimal from society's point of view? Why?	Some believe that pharmacy care services/MTM services can lower overall healthcare costs. However, to have a true impact these services must be offered on a widespread basis with consistent quality. Explain how this could be achieved by a competitive and regulatory approach. Explain the pros and cons of each and which one is most efficient.	4	Rest of the class
7	Sun 3 October	Health Policy	Ch. 15-19	No paper due	In 2017, the Legatum Institute released the list of the top 16 countries with the world's best healthcare. The US is absent from this list. Such ranking is based on three key components: a country's basic mental and physical health, health infrastructure, and the availability of preventative care. Please provide arguments, using microeconomic tools, as to why the US is not part of this list.	5	Rest of the class
8	Sunday, October 10	No pre-recorded video		No paper due	Presentation of course projects	All	All

* Appendix B provides additional detail on what the presentation and reaction groups (rest of the class) will present.

Course project final presentations and reports

The course project assignment will consist of applying pharmaceutical microeconomic tools to analyze current issues of the healthcare system. The course project will be assigned on the day of the first live meeting. Every week, in the second half of the two-hours live meeting, each student will present their progress on their course project and get feedback from classmates and the instructor. On Sunday, October 11, all students will deliver a 15-minute presentation of their course project, followed by a 10-minute formal discussion. Please turn in your slide decks by October 11 at 1 pm. The topics are presented below:

Presentation 1: If the US adopted a healthcare system currently used in the UK, explain the likely impact on supply and demand of pharmaceutical products, services, and workforce.

Presentation 2: The Patient Protection and Affordable Care Act states “A group health plan and a health insurance issuer offering group or individual health insurance coverage that provides dependent coverage of children shall continue to make such coverage available for an adult child (who is not married) until the child turns 26 years of age.” Using microeconomic tools, explain how obtaining health insurance may affect a previously uninsured young adult’s behavior in the market for medical care services.

Presentation 3: The price of cancer treatments has significantly increased over the past decades, partially due to the development of novel and breakthrough treatments and their adoption as standards of care. As market access and pricing executives in your company, you have been asked to explain how this price increase trend would affect your company in the long run. In addition, propose a solution, if any, to address this phenomenon.

Presentation 4: There are many contributing factors to the production of health. Place the contribution of pharmaceuticals to the production of health in the context of the other factors and propose ways to separate and measure the contribution of pharmaceuticals to the production of health.

Presentation 5: Using a co-payment is one of the mechanisms that firms and insurance companies utilize to reduce moral hazard. However, over the last few year, many employers have been reducing the co-payments their employees are charged for certain prescription drugs as part of their cost containment strategies. Explain why this may be happening using the microeconomic concepts that we discuss in the class. Explain why certain “lifestyle” prescription drugs are excluded from such programs.

AppendixB—Overview of weekly class activities

Week 1

Overview: The purpose of this module is to provide a strong rationale as to why one should be interested in pharmaceutical microeconomics.

Learning Objectives:

- Describe the relationship between economics, health economics, and pharmaceutical microeconomics.
- Explain whether or not economic theories apply to the healthcare sector if healthcare has unique characteristics that make it unique from other markets/industries.
- Briefly discuss the microeconomic view of health.

Assignments:

- Read:
Ch. 1 Why health economics/Introduction
- No paper due this week.
- No presentation due this week.

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Week 2

Overview: The purpose of this module is to explore the concepts related to demand in healthcare and understand how insurance affects the market outcome.

Learning Objectives:

- Describe the determinants of demand for health and health care.
- Describe the Grossman's model for health and its potential applications
- Understand the issue of socioeconomic disparities in health

Assignments:

- Read: Ch. 2 Demand for health care
 - Ch. 3 Demand for health: the Grossman model
 - Ch. 4 Socioeconomic disparities in health
- Attend Zoom class
- Participate in Discussion Board.
- Submit individual weekly paper by Sunday at 11:55 p.m.
 - **Topic:** Is economic theory easily applicable to markets for pharmaceutical goods and services? Why or why not? If not, briefly explain the distinctive features of these markets.
- **1:** Prepare a presentation for the class on Sunday.
 - **Topic:** Does the price of healthcare affect health itself? Please use both the RAND HIE and the Oregon experiment to motivate your answer.
- **The rest of the class** will listen to the presentation and identify the strengths and weaknesses of the conclusions reached by 1 and propose alternative views if any.

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Week 3

Overview: The purpose of this module is to explore the concepts related to supply in healthcare and understand how insurance affects the market outcome.

Learning Objectives:

- Describe the labor market for physicians
- Describe the hospital industry (organization and relationship between hospitals and physicians)
- Discuss price competition and quality competition as it relates to the hospital industry
- Explore the relationship between hospitals and payers

Assignments:

- Read: Ch. 5 The labor market for physicians
Ch. 6 The hospital industry
- Attend Zoom class
- Participate in Discussion Board.
- No paper due this week
- **2:** Prepare a presentation for the class on Sunday.
 - **Topic:** Why might contract nurses, who are typically hired for short periods by hospitals to fill unexpected scheduling holes, tend to have negative impacts on patient outcomes? Speculate about the sorts of specific human capital that might give regular nurses an advantage over contract nurses in helping patients. Can this help explain the positive volume-outcome relationship observed in hospitals?
- **The rest of the class** will listen to the presentation and identify the strengths and weaknesses of the conclusions reached by 2 and propose alternative views if any.

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Week 4

Overview: The purpose of this module is to familiarize with information economics and be able to apply its related concepts.

Learning Objectives:

- Explore the insurance market and how to determine the demand for insurance
- Introduce the theory of information and see how this shapes the demand for insurance
- Study different models as they relate to information economics, mainly adverse selection models and moral hazard

Assignments:

- Read: Ch. 7 Demand for insurance
 - Ch. 8 Adverse selection: Akerlof's market for lemons
 - Ch. 9 Adverse selection: the Rothschild–Stiglitz model
 - Ch. 10 Adverse selection in real markets
 - Ch. 11 Moral hazard
- Attend Zoom class.
- Participate in Discussion Board.
- Submit individual weekly paper by Sunday **at 11:55 p.m.**
 - **Topic:** Akerlof's model can be used to model the health insurance market. In this market, which party is analogous to car buyers? Which party is analogous to car sellers? What would it mean for the health insurance market to unravel?
- **3:** Prepare a presentation for the class on Sunday.
 - **Topic:** PBMs are a component of the US healthcare system. Describe the nature of the agency relationship. What data would you gather to determine if asymmetric, imperfect, or perfect information exists in this market? What would be your policy recommendation (if at all) to correct this?
- **The rest of the class** will listen to the presentation and identify areas of agreement and disagreement about the presentation and propose your own answers if different.

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Week 5

- No Class - Exam 1 due at 11:55 pm Eastern Time Zone
- No Paper due
- No presentation

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Week 6

Overview: The purpose of this module is to examine the structure and function of the pharmaceutical industry, building on the concepts discussed in the first five weeks. In addition, issues of social justice and meeting the needs of society will be discussed along with the rationale for government intervention in healthcare.

Learning Objectives:

- Study pharmaceuticals and economics of innovation.
- Investigate how health care technologies, pharmaceuticals, in particular, are priced.
- Learn how to assess the value of health care technologies with an emphasis on pharmaceuticals.

Assignments:

- Read Ch. 12 Pharmaceuticals and the economics of innovation.
 - Ch. 13 Technology and the price of health care.
 - Ch. 14 Health technology assessment.
- Attend Zoom class.
- Participate in Discussion Board.
- Submit individual weekly paper by Sunday at 11:55 p.m.
 - **Topic:** Explain how medications are currently priced (how are prices determined?). Is this mechanism the most optimal from society's point of view? Why?
- **4:** Prepare a presentation for the class on Sunday.
 - **Topic:** Some believe that pharmacy care services/MTM services can lower overall healthcare costs. However, to have a true impact these services must be offered on a widespread basis with consistent quality. Explain how this could be achieved by a competitive and regulatory approach. Explain the pros and cons of each and which one is most efficient.
- **The rest of the class** will listen to the presentation and identify areas of agreement and disagreement about the presentation and propose your own answers if different.

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Week 7

Overview: The purpose of this module is to examine the manifestation and impact of government regulation in the US compared to government involvement in healthcare in other developed countries around the world.

Learning Objectives:

- Describe the intended outcome of specific government regulations in the US. Explain whether or not these outcomes were realized.
- Explain the typology of contemporary healthcare systems including social systems.
- Compare and contrast the healthcare systems in Canada, Germany and the UK (focusing on structure, access, and financing).
- Explain if either of these systems would or would not work in the US.

Assignments:

- Read: Ch. 15 The health policy conundrum.
 - Ch. 16 The Beveridge model: nationalized health care.
 - Ch. 17 The Bismarck model: social health insurance.
 - Ch. 18 The American model.
 - Ch. 19 Population aging and the future of health policy (optional).
- Attend Zoom class.
- Participate in Discussion Board.
- No paper due this week.
- **5:** Prepare a presentation for the class on Sunday.
 - **Topic:** In 2017, the Legatum Institute released the list of the top 16 countries with the world's best healthcare in the world. The US is absent from this list. Such ranking is based on three key components: a country's basic mental and physical health, health infrastructure, and the availability of preventative care. Please provide arguments, using microeconomic tools, as to why the US is not part of this list.
- **The rest of the class** will listen to the presentation and identify areas of agreement and disagreement about the presentation and propose your own answers if different.

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Week 8

Sunday, October 10– Course project final presentations and reports

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- 1:** If the US adopted a healthcare system currently used in the UK, explain the likely impact on supply and demand of pharmaceutical products, services, and workforce.
- 2:** The Patient Protection and Affordable Care Act states “A group health plan and a health insurance issuer offering group or individual health insurance coverage that provides dependent coverage of children shall continue to make such coverage available for an adult child (who is not married) until the child turns 26 years of age.” Using microeconomic tools, explain how obtaining health insurance may affect a previously uninsured young adult’s behavior in the market for medical care services.
- 3:** The price of cancer treatments has significantly increased over the past decades, partially due to the development of novel and breakthrough treatments and their adoption as standards of care. As market access and pricing executives in your company, you have been asked to explain how this price increase trend would affect your company in the long run. In addition, propose a solution, if any, to address this phenomenon.
- 4:** There are many contributing factors to the production of health. Place the contribution of pharmaceuticals to the production of health in the context of the other factors and propose ways to separate and measure the contribution of pharmaceuticals to the production of health.
- 5:** Using a co-payment is one of the mechanisms that firms and insurance companies utilize to reduce moral hazard. However, over the last few year, many employers have been reducing the co-payments their employees are charged for certain prescription drugs as part of their cost containment strategies. Explain why this may be happening using the microeconomic concepts that we discuss in the class. Explain why certain “lifestyle” prescription drugs are excluded from such programs.

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