

University of Maryland
Master of Science in Applied Economics
Economics 671 - Economics of Health Care

Summer 2021: Thursdays at 6:45pm

Contact Information

Instructor: Nathan Petek (npetek@umd.edu)

Office hours: Thursday 6:10-6:40pm and immediately after class (via Zoom by appointment)

TA: Scott Abramson (jsabram@umd.edu)

Office hours: Wednesdays from 5:30-6:15pm (via Zoom)

Course Website: Copies of the course syllabus, your grades, and other relevant links and documents will be posted on the course's ELMS/Canvas website. You can access the site via www.elms.umd.edu. You will need to use your University of Maryland "directory ID" and password.

Course Description

This course is an examination of the structure, conduct, and performance of the health care market including physician services, the pharmaceutical industry, the hospital market, and health insurance using quantitative and analytic economic tools. Special emphasis is on regulatory response to market imperfections.

- We will learn microeconomic and econometric tools and use them to analyze health care behavior and markets; and
- learn about the unique institutional features of health care behavior and markets that make the economics of health care differ from other industries.

Course Objectives

Our program has 7 general learning outcomes for students:

1. Ability to understand, evaluate and analyze economic data
2. Ability to understand and interpret statistical evidence from economic data

3. Ability to apply empirical evidence to assessing economic arguments
4. Ability to apply macroeconomic theories to policy discussions
5. Ability to apply microeconomic theories to policy discussions
6. Ability to communicate economic ideas to a broader audience
7. Ability to evaluate the effectiveness of policy programs using sound economic techniques

The learning outcomes that pertain to this course are: 1, 2, 3, 5, 6, and 7

Prerequisites

ECON 641: Microeconomic Analysis and ECON 644: Empirical Analysis II (or concurrently enrolled).

Lectures and Meetings

Pre-recorded lectures will be posted on ELMs. Please watch the relevant lectures and do the required reading prior to the class meeting. Class meetings will be held via Zoom and will focus on answering questions about the content of the lectures and reading, the online discussion topics, demonstrations and problem solving, and presenting and discussing research papers. We will generally end around 8:15-8:30pm, but may have longer meetings certain weeks (e.g., week 3).

Required Readings

Health Economics 2014 edition (sometimes sold as 2013 edition) by Jay Bhattacharya, Timothy Hyde, and Peter Tu (BHT)

Various journal articles and working papers that are listed in the syllabus and are available on Canvas.

Assignments and Grading

	Assignment	% of Grade	Instructions for Submitting Assignments
1	Online Discussion	$\frac{1}{2}$ per week for 10 weeks	Electronically via ELMS discussion board
2	Homework	5 per assignment	Electronically via ELMS
3	Pre-Recorded Presentation	5	Streaming link on ELMs discussion
4a	Paper pitch / comment	Part of discussion grade	Via ELMS discussion board
4b	Paper proposal	Pass/Fail	PDF via ELMS
4c	Bullet point memo	5	PDF and code via ELMS
4d	Final paper	20	PDF and code via ELMS
5	Midterm exam	20	Electronically via ELMS
6	Final exam	25	Electronically via ELMS

At the end of the term, every student will have a numerical course grade between 0 and 100 that is computed as a weighted average of their percentage correct on each assignment using the % of Grade as weights. I will decide upon the numerical cutoffs between various letter grades based on

my professional judgment. I will consider students' performance relative to the class. I will also consider absolute standards of professional competence. Highly competent students will get A's. Barely competent students will get B's. Incompetent students will get B-'s or worse. The cutoffs that I use will respect the ordinal ranking of numerical course grades. No student with a given numerical course grade will receive a lower letter grade than someone else with a lower numerical course grade. All assignments are due at the beginning of class unless otherwise noted. *Late assignments will receive a zero unless the assignment is late for a reason that qualifies as an excused absence under UMD's excused absence policy and appropriate documentation is provided* (see, <https://www.president.umd.edu/sites/president.umd.edu/files/files/documents/policies/V-100G.pdf>).

1. **Online Discussion:** I will post a prompt for the class to discuss each Thursday, except the week of the Midterm and Final (although you are encouraged to discuss the material covered by the exams on the discussion board those weeks). The discussion will be open from Thursday night to Tuesday at 11:59pm each week. You are required to post a substantive response to my prompt, another student's post, or the weekly presentation video that uses economic theory and facts to advance the discussion. Your post may include posing questions of your own, but they cannot be the entirety of your post and they should be in service of clarifying or adding to the discussion. Thoughtful, well-reasoned contributions will receive 2 points, marginal contributions will receive 1 point, and posts that do not contribute to the discussion will receive 0 points. There will be seven weeks where this discussion works as described above. The week of the "*Paper Pitch and Comment*" you'll make an in-class paper pitch, you'll write a written pitch on the ELMS discussion, and you must reply to the paper pitch thread. Please follow the instructions for the *Paper Pitch and Comment* regarding the content to include and when the pitch and comment are due. You will get a separate discussion grades for your your post on the ELMS discussion board and your comment. The assignments related to the "Paper Pitch and Comment" will be about 20% of your discussion grade.
2. **Homework:** There will be four homework assignments. They will be due at Thursdays at 6:35pm. You are encouraged to discuss the homework assignments with your classmates, but every student must turn in individual solutions and you may not directly copy your classmates' solutions or use solutions from previous years. If the homework includes empirical questions, please attach any computer code you wrote and the corresponding log file.
3. **Presentation:** All students will record a 10 minute presentation on a topic. The presentations will cover the topics listed in the weekly schedule (see below). After the first class you should send me a list of your top four preferred topics in order. I will make topic assignments by using a computer program to assign each student a random number and then order students by their random number. I'll then assign you to your most preferred remaining topic starting with the student who has the highest random number and ending with the student with the lowest random number. There are currently more students registered than topics so some students will be assigned a partner to work with. Your recording is due at 6:35pm Thursday of the week of your presentation. Use Panopto Recordings feature in ELMS to create a streaming link to your recording, and then create a discussion topic ELMs that includes the streaming link to your recording. Please answer questions/respond to comments posted to the discussion of your video that the week. A draft outline or slides are due to me by email

at 8pm on the Sunday of the week you're presenting. I'll send you comments by Monday evening. You may record the presentation using Panopto or the software of your choice. If you record the presentation using Panopto, please make sure to choose permission settings that allow the class to view the recording. For instructions on setting up an ELMS discussion, see, ELMS Discussion Instructions.

4. **Paper:** You will be required to write a short empirical health economics paper working in pairs, although you will complete the paper pitch individually. The goal will be to conduct an empirical analysis that answers a health economics related question and write it up as a short paper. The analysis can be very similar to an existing health economics paper, but it cannot be an exact replication. For example, it must differ materially from existing papers in terms of the data used, the empirical specification, the time period, etc. I strongly suggest using Dropbox to share your code, data, and draft paper with your co-author. A free 2GB account should be sufficient for this assignment.
 - (a) *Paper Pitch and Comment.* Pitch an idea for your paper to the class over Zoom (< 5 minutes per person) and we'll have a short discussion of your idea. Then refine your idea and post a revised pitch on ELMS via discussion board topic I create. Please complete this assignment individually. You should describe the question you want to answer, why it's interesting, the data you'll use, the empirical model you'll estimate, and how the model and data will allow you to answer your question. You should also write a substantive comment on one other student's pitch providing advice or suggestions for how to improve their paper. This will serve as the week 3 discussion topic. The verbal pitch will be in class on 6/17. The written version of the pitch is due on 6/20 at 11:59pm and the comment on another student's pitch is due on 6/22 at 11:59pm.
 - (b) *Identify a Co-author.* You should use the paper pitch/comment assignment to identify a classmate you would like to co-author your paper with and choose the topic the your paper will cover (likely one of the two ideas you pitched). Please inform your instructor who you will co-author with via email by 6:30pm on June 24. If you are unable to find a co-author, please let your instructor know and he will assist you in finding a co-author.
 - (c) *Paper Proposal.* Please complete this assignment with your co-author. Your joint proposal should be less than a page long and it should describe the question you want to answer, the data you'll use, the empirical model you'll estimate, how what you're doing differs from the most similar existing paper, and what new we'll learn from your paper. Include the equation for the empirical model you will estimate. Although this assignment isn't graded, a feasible proposal is required in order to pass this course. Please submit this assignment as pdf file via ELMS.
 - (d) *Bullet Point Memo.* Please complete this assignment with your co-author. Summarize the results of your empirical analysis for your paper in a short, bullet point memo. Maximum 1 page of bullet points (1.5 spacing, 1 inch margins, font size equivalent to Times New Roman 12 point). Include a second page with a summary statistics table and a table reporting your main results. The bullet points should describe question you're answering, the data you used, the model you estimated (include the equation with all variables and parameters defined), key result(s) and how you interpret them. For example, does it show a causal effect of your independent variable of interest

on your outcome variable. If so, why do you think it shows a causal effect? Also, why might it not be a causal relationship? Try interpret the magnitude of the estimate, i.e., whether the estimate is large or small. Feel free to use incomplete sentences or sentence fragments, but your memo must still be easily understood by the reader. Please submit this assignment as pdf file via ELMS along with your code.

- (e) *Final paper.* Turn your Bullet Point Memo into a paper and incorporate your instructors suggestions. Please complete this assignment with your co-author. The body of the paper should be no longer than 3 pages of text, 1.5 spacing, 1 inch margins, with font size approximately equivalent to Times New Roman 12 point (it's OK if you slightly exceed the length requirement). In addition it must include a references section, two tables and one figure appended to the end of the paper: a table of summary statistics, a table with your main statistical results, and a figure designed to show your main results graphically. I suggest you structure the paper roughly with the following sections: introduction, data, empirical model, results, and references. The introduction should include an introductory paragraph describing why the topic you're studying is interesting, a paragraph summarizing your study, and a paragraph describing what we learn from your paper relative to the most similar existing paper. The data section should describe the key features of the data you use for your study. The empirical model should include a short description of your empirical approach and the key equation you estimate with all variables and parameters defined. The results section should describe the findings in the table with your main statistical results and your main figure with an emphasis on what we learn from them (i.e., your conclusions should be clearly stated in the results section). In your results section make sure to discuss how we should interpret your main statistical results. For example, does it show a causal effect of your independent variable of interest on your outcome variable. If so, why do you think it shows a causal effect? Also, why might it not be a causal relationship? Try interpret the magnitude of the estimate, i.e., whether the estimate is large or small. Please submit this assignment as a pdf file via ELMS along with your code.

5. **Midterm:** The midterm exam will be posted at 6:45pm and it is due via ELMs at 9:30pm (it should not take you that long to complete). It will cover the material through week 5. It is open book and open notes, and you may use whatever device you prefer for calculations. However, you may not communicate in any way with any person during the exam except your instructor.
6. **Final:** The final exam will be posted at 6:45pm and it is due via ELMs at 10:00pm (it should not take you that long to complete). It will be cumulative but with roughly equal focus on material from the first and second halves of the course. It is open book and open notes, and you may use whatever device you prefer for calculations. However, you may not communicate in any way with any person during the exam except your instructor.

Weekly Schedule

1. June 3: Introduction, why health economics, and historical perspectives on health
 - (a) Readings: BHT Chapter 1 and Costa 2015

- (b) Presentation topic: N/A
 - (c) Due: N/A
2. June 10: Grossman model and modern health disparities
 - (a) Readings: BHT Chapter 3 and 4
 - (b) Presentation topic: N/A
 - (c) Due: N/A
 3. June 17: Demand for health insurance and introduction to adverse selection
 - (a) Readings: BHT Chapters 7 and 8, and Akerloff 1970 (optional)
 - (b) Presentation topic: How is health insurance provided in the US?
 - (c) **Due: Pitch your paper idea (verbally) in class. Written version of pitch due on 6/20 at 11:59pm and comment due on 6/22 at 11:59pm.**
 4. June 24: Graphical analysis of adverse selection and adverse selection in practice
 - (a) Readings: BHT Chapter 9 section 11 only, chapter 10; Einav and Finkelstein 2011; and Finkelstein, Hendren, and Shepard 2017
 - (b) Presentation topic: What do we learn from Cutler and Reber 1998?
 - (c) **Due: HW 1**
 - (d) **Inform the Instructor who your empirical paper co-author will be (via email) by 6:30pm**
 5. July 1: Moral hazard and what does health insurance do
 - (a) Readings: BHT Chapters 2 and 11, Finkelstein et al. 2012, and Baicker et al. 2013
 - (b) Presentation topic: Did the ACA lead to improvements in health?
 - (c) **Due: Paper proposal**
 6. July 8: Physician markets, hospital markets, and competition in provider markets
 - (a) Readings: BHT Chapter 5 & 6, Clemens and Gottlieb 2014, and Gaynor and Town 2012.
 - (b) Presentation topics: Discuss a recent hospital or physician antitrust case (e.g., Advocate-Northshore, Hershey-Pinnacle, Sanford-MidDakota) using court rulings
 - (c) **Due: HW 2**
 7. July 15: **Midterm**
 - (a) Readings: N/A
 - (b) Presentation topics: N/A
 - (c) **Due: Midterm (Covers material through July 1)**

8. July 22: Pharmaceutical industry and Health technology & costs
 - (a) Readings: BHT Chapters 12 and 13, and Lakdawalla et al. 2009
 - (b) Presentation topic: Discuss a “pay for delay” case or a sham lawsuit case involving pharmaceuticals
9. July 29: Externalities and Economic Epidemiology
 - (a) Readings: BHT Chapters 20 and 21
 - (b) Presentation topic: Discuss Thaler and Rosen 1975
 - (c) **Due: HW 3**
10. August 5: Health care policy intro and part 1
 - (a) Readings: BHT Chapters 15 and 16
 - (b) Presentation topic: Discuss Singapore’s health care system
 - (c) **Due: Bullet Point Memo**
11. August 12: Health care policy parts 2 & 3
 - (a) Readings: BHT Chapters 17, 18, and supplemental ACA Chapter. May 2019 CBO Single Payer Report (optional).
 - (b) Presentation topic: Costs and benefits of a single payer system in the US
 - (c) **Due: HW 4**
12. August 19: **Final Exam**
13. August 22: **Revised Paper Due (1:00 pm)**

Other Policies

- **Course Website:** Copies of the course syllabus, your grades, and other relevant links and documents will be posted on the course’s ELMS/Canvas website. You can access the site via www.elms.umd.edu. You will need to use your University of Maryland “directory ID” and password.
- **Email:** The University has adopted email as the primary means of communication outside the classroom, and I will use it to inform you of important announcements. Students are responsible for updating their current email address via <http://www.registrar.umd.edu/current/> (Under the first major heading of "Online Transactions" there is a link to "Update Contact Information".)
- **Contact Hours:** Three credit master’s-level courses at the University of Maryland require a minimum amount of contact between instructors and students. Our courses’ 12 weekly meetings only satisfy 80% of the university’s contact requirement. The other 20% is satisfied by weekly mandatory and graded online contact. In principle, the contact hours requirement

could be satisfied by scheduling 3 additional 150-minute meetings per term, or 6 additional 75-minute meetings, or 10 additional 45-minute meetings. But in practice the contact hours requirement is satisfied by the weekly online discussions. The weekly online discussions are a more flexible way to ensure that our program's courses in DC provide the same level of student-instructor contact as the traditional 15-week face-to-face version of the same course when it is taught on campus in College Park.

- **Work Load:** Mastering the material covered in this course requires a significant amount of work outside of class. Students should expect to spend more time outside of class than in class – typically at least twice as much time. The courses in our DC program are 12-week courses that cover all the same material as a traditional semester-long 3-credit course (15 weeks). The compressed schedule makes it possible to complete our degree in just 15 months if you take 2 courses each term. But the compressed schedule also implies an accelerated pace with an average of 25% more work per week in a given course ($15/12 = 1.25$). The normal full-time load in a master's program is 3 courses per semester, or 6 courses per year. The weekly work load when taking 2 of our DC courses per term is equivalent to the load from 2.5 "normal" 15-week courses - so $2.5/3.0=83\%$ of a full-time load. Students who take 2 courses per quarter in our program complete 8 courses per year. So over the course of a year, taking 2 courses per quarter in our DC program is equivalent to 133% of a full-time load ($8/6 = 1.33$).
- **Academic Integrity:** The University of Maryland has a nationally recognized Code of Academic Integrity. You should inform yourself about the UMD policies related to academic misconduct: <https://www.studentconduct.umd.edu/home/current-students>. Cases of academic misconduct, including plagiarism and giving or receiving unauthorized assistance on exams, will be referred to the UMD Office of Student Conduct. If found responsible for academic misconduct, students can be subject to sanctions. The standard sanction for graduate students found responsible for cheating on exams is expulsion from the university.
- **Student Conduct:** Students are expected to treat each other with respect. Disruptive behavior of any kind will not be tolerated. Students who are unable to show civility to one another or myself will be referred to the Office of Student Conduct. You are expected to adhere to the Code of Student Conduct.
- **Excused Absences:** The University of Maryland's policy on excused absences is posted here: <http://www.president.umd.edu/administration/policies/section-v-student-affairs/v-100g>. Please note: If you miss any class meetings for any reason, you are still responsible for all material covered during the meeting you missed. It is your responsibility – not the instructor's – to get yourself caught up in the course. Instructors routinely facilitate things by posting lecture notes, etc. If you need to miss an exam or other graded course requirement because of illness, injury, or some other emergency: Follow doctor's orders and get documentation. Get in touch with the instructor as soon as you're able – preferably prior to missing the exam or deadline. Communicate with the instructor to make up the course requirement as soon as possible. You are entitled to recover before you make up the course requirement, but you are not entitled to extra days to study beyond the time the doctor's note says you're incapacitated. If you are incapacitated for more than a week or so beyond the

end of the term, your grade in the course will be an “Incomplete”. In such cases you must negotiate a plan with your instructor for completing the course requirements. Once you make up the course requirement the instructor will change your "I" to the appropriate letter grade.

- **School Closings and Delays:** Information regarding official University closing and delays can be found on the campus website and the snow phone line: (301) 405-SNOW (405-7669). Since our program is an evening program in downtown Washington, DC, rather than a day program in College Park, we do not always cancel classes on the same days as the College Park campus. The program director will always announce cancellation information to the program as an announcement on the program’s ELMS/Canvas site. This will generally be done by 1:00 p.m. on days when weather or other factors are an issue.
- **UMD Counseling Center:** Sometimes students experience academic, personal and/or emotional distress. The UMD Counseling Center in Shoemaker Hall provides comprehensive support services that promote personal, social, and academic success. The cost of these services is covered by the fees you already paid when you registered for classes, and there is no additional charge if you use the services. Proactively explore the range of services available, including the Counseling Service, Accessibility and Disability Service, Learning Assistance Service, and the Testing Office, all described at <http://www.counseling.umd.edu/>
- **Students with Disabilities:** The University of Maryland does not discriminate based on differences in age, race, ethnicity, sex, religion, disability, sexual orientation, class, political affiliation, or national origin. Reasonable accommodations will be arranged for students with documented disabilities. Students who have an accommodations letter from the Accessibility and Disability Service (ADS) should meet with me during the first week of the term to discuss and plan for the implementation of your accommodations. If you require reasonable accommodations but have not yet registered with ADS, please contact the Accessibility and Disability Service at 301-314-7682 or adsfrontdesk@umd.edu.
- **Academic Progress:** The UMD Graduate School requires that students maintain a GPA of at least 3.0. Students whose cumulative GPA falls below 3.0 will be placed on academic probation by the graduate school. Students on academic probation must ask the program’s director to petition the graduate school if they want to remain enrolled in the program. The petition must include a plan for getting the student’s GPA up to at least 3.0. Students who do not live up to their plan can have their enrollment in the program terminated without having earned the degree. Note: a grade of "B" corresponds to a GPA of 3.0. A grade of "B-" corresponds to a GPA of 2.7.
- **Laptop Computer Requirement:** Completing some of this course’s requirements will require a laptop computer (not a notebook or a tablet!) with at least 1 GB of RAM and at least 5 GB of free space available on the hard-drive. We recommend laptops with a 15-inch screen. Screens smaller than 13 inches are probably not practical. Since this course is being taught online, you must also have a webcam and a microphone. Students are expected to participate in the class meetings and office hours with their camera turned on.