Economics on Healthcare Technology, Innovation, and Big Data
(Fall 2025, Peking University)

15:10-18:00 Thursdays, Chengze Garden #246

Instructors:
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Course Description:

This graduate course offers an in-depth exploration of the economics of healthcare technology and innovation, as well as the cutting-edge developments in AI and big data within the healthcare sector. Designed to critically analyze leading academic papers, each session provides a thorough examination of significant research, coupled with an insightful look into the specific institutional and technological contexts of China. The curriculum is tailored to equip students with a deep understanding of both seminal and contemporary economic research, while also shedding light on the distinct challenges and evolving dynamics of China's healthcare system and the broader trajectory of technological advancements in healthcare. The primary goal of the course is to prepare students for independent graduate-level research in the field of healthcare economics or related areas.

We welcome graduate level students to participate in our discussion. Given the research-oriented nature of the course, enrollment requires that students have taken (or are concurrently enrolled in) the first-year graduate microeconomics and econometrics sequences. If you haven't taken these classes, but have equivalent background, you are welcome to take the class with permission of instructors.

Course Requirements：

The course will be graded based on class participation (30%), one "referee" report assignments of 1-2 pages (30%) and an extended research proposal that includes data analysis and a final presentation (40%).

Class Participation: Class participation primarily consists of two components: presenting a research paper and leading an institutional background session during the semester. Students will select a topic of interest and choose a paper from the reading list related to that topic. We encourage students to discuss their paper selection with the instructor. For the institutional background presentation, students will survey the current stage of development in China and abroad, presenting their findings to the class.

In addition to these presentations, we strongly encourage active participation in discussions throughout all lecture segments. We particularly value thoughtful engagement with key questions, such as: the paper's innovative aspects, potential limitations or open questions, comparisons with China, possible research questions relevant to the Chinese context, and lessons applicable to one's own research in terms of ideas, data, methodology, execution, and writing.

Referee Report: The referee report should correspond to the research paper the student presents. The reports should not exceed two pages, and should focus on broader questions about the paper, its contribution to the literature, critical assumptions/omissions, and additional analysis that would have been valuable. We encourage students to bring up specific concerns about the details of the methodology in class but focus their write-up on the more conceptual methodological issue. E.g., we would prefer you discuss the logic behind the exclusion restriction for an instrument rather than how the authors chose to cluster standard errors.

Research Proposal and Final Presentation: One of your goals for the course should be to identify questions worthy of further examination. For this assignment you will define a specific research question, describe the literature(s) to which it connects, propose a method for answering the question, and present preliminary findings or results. We encourage you to discuss your research idea with either or both instructors early in the semester to refine your project. You will present your research in progress during the final class session.

<u>Highly recommended background text</u>

Fuchs, Victor Robert. *Who shall live? health, economics, and social choice*. Italy: Basic Books, 1974. (Newer edition: Fuchs, Victor R., and Karen N Eggleston. *Who Shall Live? Health, Economics and Social Choice*. 3rd ed. World Scientific Publishing Company Pte. Ltd, 2023.)

Deaton, Angus. *The Great Escape: Health, Wealth, and the Origins of Inequality.* Princeton University Press, 2015.

Culyer, Anthony J., and Joseph P. Newhouse, ed. *Handbook of Health Economics*, Volumes 1(A) and 1(B). New York: Elsevier, 2000.

Newhouse, Joseph. *Pricing the Priceless: A Healthcare Conundrum*. Cambridge, MA: MIT Press, 2002.

Lee, Thomas H., and James Mongan, ed. *Chaos and Organization in Health Care*. Cambridge, MA: MIT Press, 2009.

Pauly, Mark V., Thomas G. McGuire, and Pedro P. Barros, ed. *Handbook of Health Economics*, Volume 2. New York: Elsevier, 2011.

Agrawal, Ajay, Joshua Gans, Avi Goldfarb, and Catherine Tucker, ed. *The Economics of Artificial Intelligence: Health Care Challenges*. Chicago: The University of Chicago Press, 2024.

Approximate Schedule

Week	Date	Topic
1	9/11	Overview of the Healthcare Market (Yi)
2	9/18	The History of Healthcare Technology and Human Health (Yang)
3	9/25	**Innovation in Healthcare**
4	10/9	Healthcare Technology Assessment (HTA)
5	10/16	Healthcare Technology and Hospital Behavior
6	10/23	Productivity in Healthcare
7	10/30	**Healthcare Technology and Physician Behavior**
8	11/6	Midterm Discussion
9	11/13	
10	11/20	Economic Impact of Healthcare IT and Telehealth
11	11/27	**AI, Big Data, and Healthcare**
12	12/4	Health Insurance
13	12/11	**Behavioral Health**
14	12/18	
15	12/25	Student presentations