

Course Outline

EE484 Empirical Industrial Organization

Semester 2/2024 (January 20th – May 14th, 2025)

Number of Credits: 3 credits

Prerequisite: (a) EE311 and EE325 (or EE425) or
(b) with the consent of the lecturer.

Course Description: Empirical approach in industrial economics and application of econometric analysis in industrial economics theory, i.e., Estimation of demand and production functions, Measurement of market power, Analysis of firm's strategic behavior, Vertical and horizontal competition, Firm's entry decisions, contract, and learning. Measurement of firm performance by efficiency and productivity indicators.

Course Objectives: -

Class Time and Logistic

Class day: Friday

Class time: 13.00 – 16.00 hrs.

Venue: Computer Lab 4th Floor, Faculty of Economics

Teaching Materials Platform: [Google Classroom:] fm6mims

Instructor:

Name: Asst. Prof. Dr. Monthien Satimanon

Office Hours: **By Appointment**

Email: monthien@econ.tu.ac.th

Phone: -

Expected Learning Outcomes

1. Morality and Ethics **EE484**

Applicability	Expected Learning Outcomes	Evaluation Method
●	1. Students demonstrate integrity.	
○	2. Students prioritize social and public benefits over personal ones.	
●	3. Students are punctual and comply with the code of conduct of the institution and society at large.	
○	4. Students are responsible and accountable to society, the nation, and the subject of economics.	
○	5. Students realize the cultural and environmental value of a sustainable society.	

2. Knowledge

Applicability	Expected Learning Outcomes	
●	1. Students know and understand modern economics principles and theories and are up to date with new developments.	
●	2. Students know and understand Thai and global economic structures and the importance of major international financial events.	
○	3. Students know and understand the instruments of economic analysis.	
●	4. Students know and understand applied fields in economics, including monetary, public, international, business, natural resource, environmental, industrial, agricultural, cooperative, political, developmental, and entrepreneurial economics, as well as agribusiness.	
○	5. Students are informed about related fields including sociology, business administration, education, law policy, and science.	

3. Intellectual Development

Applicability	Expected Learning Outcomes	
●	1. Students have developed individual critical thinking.	
●	2. Students are sufficiently trained in research skills.	
●	3. Students demonstrate an ability to analyze and synthesize data and appropriately integrate economic concepts to understand the causes of current economic problems in Thailand. Based on analysis and synthesis, students demonstrate an ability to propose policy guidelines to resolve issues.	

4. Interpersonal Skills and Responsibilities

Applicability	Expected Learning Outcomes	
●	1. Students are responsible for assigned tasks and work in groups effectively.	
●	2. Students have problem-solving skills.	
○	3. Students show leadership skills and team spirit.	
●	4. Students are constantly improving themselves.	
○	5. Students have good interpersonal skills, adapt, and work under different conditions.	

5. Quantitative Analysis, communication, and information technology

Applicability	Expected Learning Outcomes	
○	1. Students select and apply appropriate statistical and mathematical methods for data processing, interpretation, conclusions, and recommendations to resolve problems.	
○	2. Students communicate effectively and select appropriate presentation methods.	
○	3. Students appropriately use information and communication technologies to gather data and process, interpret, and present results.	

Remark: ● Primary expected outcome ○ Secondary expected

Course Narratives:

Empirical I.O. studies how markets work, how firms compete or collude with each other, and how these interactions determine profits and consumer welfare. I.O. emphasizes the interdependence in the decisions of firms operating in a market. For instance, when a firm decides to open a new store, it should consider how other firms will respond by changing their prices, advertising, closing stores, or opening new ones. These interdependencies underlie firms' decisions and market competition.

Over the last two decades, research in IOs has become predominantly empirical. I.O. economists use data on consumers' and firms' decisions to measure consumer demand, firm productivity, and profitability. They apply these measurements to understand firms' strategies and analyze how government regulations affect market competition and social welfare. Recently, the increasing availability of rich and detailed data on consumers' and firms' choices ("big data") has significantly impacted this field by generating new empirical questions requiring new models and methods.

Empirical I.O. emphasizes combining data, economic models, and appropriate econometric techniques to answer empirical questions. In terms of models and econometric methods, four main workhorses concentrate most of the research in this field: (i) production functions and the measurement of firm productivity; (ii) demand models and the estimation of consumer preferences; (iii) models of price and quantity competition; and (iv) models of market entry and innovation, both static and dynamic. This course is organized around these essential models.

Econometrics and data analysis are fundamental tools for the modern economist of the 21st Century. We will review and apply standard econometric models and methods such as the linear regression model, instrumental variables estimation, and discrete choice models. Students will gain practical experience working with economic data and using the STATA Data Analysis and Statistical Software package.

Textbook and References:

- [ABBP] Akerberg, D., L. Benkard, S. Berry, and A. Pakes (2006): "Econometric Tools for Analyzing Market Outcomes," Handbook of Econometrics, volume 6.
- [A.G.] Aguirregabiria, V. (2021): Book Project: "Empirical Industrial Organization: Models, Methods and Applications." Available at the course website.
- [ASL] Aguirregabiria, V., and M. Slade (2017): "Empirical Models of Firms and Industries," Canadian Journal of Economics, 50(5), 1445-1466.
- [ASU] Aguirregabiria, V. and J. Suzuki (2016): "Empirical Games of Market Entry and Spatial Competition in Retail Industries," Handbook on the Economics of Retail

and Distribution, Chapter 9, pp 201-233. Emek Basker (editor). Edward Elgar Publishing.

- [B.R.] Berry, S., & Reiss, P. (2007): "Empirical Models of Entry and Market Structure," in Handbook

Of Industrial Organization, Volume 3, 1845-1886.

- [M.S.] Shum, M. (2016). Econometric Models for Industrial Organization (Vol. 3). World Scientific.

- [N.E.] Nevo, A. (2011): "Empirical Models of Consumer Behavior," Annual Review of Economics, 3,

51-75.

- [R.W.] Reiss, P., and Wolak, F. (2007): "Structural Econometric Modeling: Rationales and Examples

From Industrial Organization," in Handbook of Econometrics, Volume 6, pp. 4277-4415.

LIST OF TOPICS [1] Introduction to the Course. [2] Measuring Productivity. Estimation of Production Functions. [3] Measuring Consumer Preferences. Estimation of Demand of Differentiated Products [4] Competition in Prices and Quantities. [5] Empirical Models of Market Entry

Lecture Schedule

(This schedule is subject to change. Please see Google Classroom for changes to dates, etc.)

Week	Date	Topics and Readings Tentative and Subject to Change based on Student interest and Background by PLO and ELO
1	January 24	[Introduction to the Course Measuring and explaining market power Data in Empirical IO Structural Models in Empirical Industrial Organization: An Example An overview of the rest of the course
2	January 31	Measuring Productivity. Estimation of Production Functions Introduction Simultaneity Problem
3-4	February 7	Measuring Productivity. Estimation of Production Functions Dynamic Panel Data Methods Control function methods
5	February 14	Measuring Productivity. Estimation of Production Functions Application.
6	February 21	[Measuring Consumer Preferences. Estimation of Demand for Differentiated Products Introduction

Week	Date	Topics and Readings Tentative and Subject to Change based on Student interest and Background by PLO and ELO
7	February 28	[3] Measuring Consumer Preferences. Estimation of Demand for Differentiated Products
8	March 7	Demand systems in product space Demand systems in characteristics space Application: Basic Goods
9	MIDTERM EXAM TBA	
10	March 21	Demand systems in product space Demand systems in characteristics space Application: Hedonic Price
11-12	March 28	Demand systems in product space Demand systems in characteristics space Application: Choice Modeling
13	April 4	Competition in Prices and Quantities Testing static oligopoly models (Genesove and Mullin: RAND 1998)
14	April 11	Competition in Prices and Quantities Testing static oligopoly models (Genesove and Mullin: RAND 1998)
15	April 18	Empirical Models of Market Entry: Static
16	April 25	Empirical Models of Market Entry: Static
17	May 2	Empirical Models of Market Entry Empirical Models of Market Entry with Heterogeneous Firms
18	May 9	Empirical Models of Market Entry Empirical Models of Market Entry with Heterogeneous Firms

Assessment

Class participation	10%
Presentation	10%
Joint paper (Replication)	20%
Mid-term exam	30 %
Final exam	30 %

Class Participation (and attendance)

Students should read before class and bring a copy of the reading to the class. Students are encouraged to contribute answers, comments, and questions actively. *If a student is absent from more than two classes, marks will be deducted from her or his participation mark.*

Joint Essay and Presentation

Each group will consist of 3 students. Each group will research the topic and present findings in November. After receiving comments from the instructor at the end of the presentation, the group will revise and finalize the paper and submit it within one week after the student presentation. Details about the topics and the format of the paper will be provided on Google Classroom. A hard copy should be submitted in class, and the soft copy must be submitted to the instructor's email address.

Collaboration Policy:

Discussion and exchanging ideas and works are essential to student project work. Students and their teams are encouraged to consult and discuss the projects with student classmates and share resources and codes. However, the student should ensure that any working student submits for evaluation is the result of student work and reflects their integrity. Students should also understand and practice the standard citation practices, and please cite any books, articles, websites, lectures, etc., that have helped the student with their work. If the students receive any help with their work (e.g., feedback on drafts, help with code, or programming), they must also acknowledge and credit this assistance.

Remarks:

Mid-Term Examination TBA

Final Examination TBA

ACADEMIC CALENDAR & HOLIDAY SEMESTER 2/2024

Semester 2/2024 (January 20 – May 14, 2025)	
Create Plan from Quota via TU Greats App <i>(*ID.64 – 67)</i>	December 13 – 20, 2024
Registration via TU Greats App <i>(*ID.64 – 67)</i>	December 16 – 20, 2024
Tuition Fee Payment Period (Via TU Greats App) <i>(*ID.64 – 67)</i>	December 16, 2024 – January 17, 2025
Classes Begin	January 20, 2025
Add-drop period	January 20 – February 2, 2025 <i>(from 9.00 AM of January 20 to 10.30 PM of February 2).</i>
Tuition Fee Payment Period (Via TU Greats App)	January 20 – February 3, 2025 <i>(9 AM - 10.30 PM)</i>
<i>Makha Bucha Day *</i>	<i>February 12, 2025</i>
Mid-term Examination Period	March 9 – 16, 2025
Withdrawal period with "W" on record	February 3 – March 30, 2025 <i>(from 9.00 AM of February 3 to 10.30 PM of March 30).</i>
Special Withdrawal with "w" on record	March 31 – 2 May, 2025
<i>Substitution for Chakri Memorial Day*</i>	<i>April 7, 2025</i>
<i>Songkran Festival Day*</i>	<i>April 13 – 16, 2025</i>
Last day of class for Semester 2/2024	May 14, 2025
<i>Substitution for Visakha Bucha Day*</i>	<i>May 12, 2025</i>
Final exam period	May 16 - 30, 2025
Submitting Forms for Degree Conferral	January 20 – February 2, 2025

Remark * Holiday, No classes during this period

Updated: October 17, 2024