**ECO 407 – Microeconomic Theory**

**SYLLABUS**

**Summer 2017**

# **INSTRUCTOR INFORMATION:**

**Name**: Hoang Dao (HD)

**Office:** Fronczak 407

**Email**: hoangxua@buffalo.edu

**Office Hours**: Mondays 4-5PM or by appointment

# **CLASS TIME AND LOCATION:**

**Class time**: MWF 8:00-10:00AM

**Location**:

# **PREREQUISITE**

**Mandatory**: Introduction to Microeconomics

**Suggested**: Calculus I – III, Probability theory

# **CLASS DESCRIPTION**

**Overview:** This is the course for students who want to take a step into the field of economics. It lays the foundation of Microeconomics for more advanced and applied analysis in multiple fields of Economics. The course covers the theory of the firm, the theory of the consumer, competitive markets in partial and general equilibrium and welfare analysis, the basic models of imperfect competition and Game Theory, as well as Externalities and Public policy. The course emphasizes on economic content and the development of economic intuition with some help of mathematics.

**Learning Outcome:** Upon completion of the class, students must demonstrate a solid understanding of the rigorous foundations of Microeconomics. This includes Demand-Supply analysis, Elasticity, Consumer and Producer Theory, Partial Equilibrium, General Equilibrium, Different market structures, Game theory, Welfare, Tax, Externality, and Public Policies. Students will also be introduced to different frontiers of modern Economics that are directly linked to analyses in Microeconomics, including Big Data & consumer research, Labor Economics, Competition policies, Environment policies, and Healthcare policies.

**Tips:** Most economic concepts are summarized in graphics and jargons. This is true from the basic to advanced levels in economics. Know your graphs and bring a lot of colored pens.

# **TEXTBOOK AND COURSE MATERIALS:**

**Textbook:** Hal Varian, “Intermediate Microeconomics: A Modern Approach”, ISBN **978-0393934243**

[Intermediate Microeconomics: A Modern Approach (Eighth Edition): 9780393934243: Economics Books @ Amazon.com](https://www.amazon.com/Intermediate-Microeconomics-Modern-Approach-Eighth/dp/0393934241)

 **Other materials**: Lecture notes.

 **Suggested readings:**

“Thinking Strategically” by Dixit & Nalebuff

“Oligopoly Pricing” by Xavier Vives

“Thinking: Fast and Slow” by Dan Kahneman

“Microeconomics Theory” by Mas-Colell

“Microeconomics” by Pindyck & Rubinfield

“Microeconomics” by Jeffrey Perloff

# **BASIC COURSE FLOW**

Students are expected to do the readings beforehand for assigned chapters and engage in discussion in class. Each week, there will be a homework covering the topics discussed during the weeks. The homework is due at the dates specified on the schedule.

There are 3 exams. Before each exam, there will be review sessions to cover important topics to be covered. This includes going through the answers to the homework relevant to the exams.

# **ASSESSMENT**

**Components**

* **Homework**: 9 Homework, lowest dropped, 5% each. Total = 40%

Homework is due on the specified date on the syllabus, in the form of either multiple choice or short answer/essay/calculations, due at the end of the following week. There are a total of 9 homework assigned to students, 8 of which count towards the final grade. Late assignments receive a 5% penalty each late day.

* **Exams:** 3 Exams, 20% each. Total = 60%

Three exams are equally weighed (20% each) towards the final grade. Exams are divided into Multiple choice and essay/calculation questions. Topics are based on the concepts introduced in class and homework from relevant topics. Exams are approximately monthly (see schedule) and the Final is in the Final Week.

**Grading Scale**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| <60 | 60-69.99 | 70-72.99 | 73-76.99 | 77-79.99 | 80-82.99 | 83-86.99 | 87-89.99 | 90-92.99 | 93-100 |
| F | D | C- | C | C+ | B- | B | B+ | A- | A |

**\*Attendance:** I do not count attendance towards final grades, but will take it into consideration when entering the final letter grade if you’re within 0.1 points from the next grade bracket.

# **CLASS POLICY**

**Attendance & Participation:** Students are not required to but strongly encouraged to attend every single class. It is evident that good results in both short term and long term from this class are strictly correlated with attendance.

**Exam Make up:** There are no makeups for exams or late homework. Students with sufficient evidence to miss an exam will have the weight of the missed exam added to the following exam.

**In-class behavior:** Distractions are not allowed. The use of cellphone and laptop are not allowed unless instructed. Any in-class discussion has to be non-disruptive and constructive to the lecture or topic of discussion.

**HONOR CODE & Academic Integrity:** When you matriculated, you agreed to follow the Honor Code: to do your own honest work and not to cheat in any form. All forms of cheating, including plagiarism, are violations of the Honor Code and will be treated as such. As per the Honor Code, plagiarism is defined as “[copying or imitating] the language and thoughts of others and [passing] the result off as an original work.” Using the language or ideas of others without proper citation is considered academic dishonesty (cheating), and “others” includes responses from artificial intelligence processing programs (for example, ChatGPT). If you ever have a question about an assignment or need additional help, please ask for assistance rather than jeopardize your academic career.

# **RESOURCES:**

**Tutoring**: Economic tutoring are available at

**News papers**

 The Economist

The New York Times

Washington Post

**Podcasts:**

Freakonomics Radio:

The Economist Podcasts

Planet Money-NPR

Probable Causation

Econtalk

The Grumpy Economist

**Data sources:**

city-data.com

Census.gov

Citylab.com

# **COURSE SCHEDULE (TENTATIVE)**

**05/23 – 06/10: Consumer choice & the construction of Demand**

* Review of Mathematics:
	+ Differential & Integral calculus
	+ Constrained Optimization
	+ Probability Theory

**Part 1: Consumer choice & Demand**

* Chapter 1: Overview of Microecnomics
	+ Topics to be covered
* Chapter 2: Budget Constraint
	+ Modeling income and prices
* Chapter 3 & 4: Preferences and Utility
	+ Constructing Utility functions from preferences: Substitutes, Complements
* Chapter 5-8: Choice and Comparative statics
	+ Budget Constrained Utility optimization
	+ Slutsky Equation: Income vs Substitution Effects
	+ Own price, Cross price, and Income Elasticity of Demand
* Chapter 12: Uncertainty:
	+ Risk Aversion & expected Utility
* Chapter 14-16: Demand & welfare:
	+ Consumer Surplus
	+ Demand & Supply
* Extra Topics: Big Data: Visualizing real life demand from data
* Extra Topics: Behavioral Economics

**6/12 Exam 1 (20%)**

**6/14 – 7/5: Cost, Supply, and Market structures**

**Part 2: The firm’s problem**

* Chapter 18: Technology
	+ Different production functions
	+ Technical rate of Substitution, returns to scale
* Chapter 19-20: Profit Maximization & Cost Minimization, Duality
* Chapter 21-23: Cost & Supply, Perfectly competitive market
* Chapter 26: Factor demand
* Extra topic: Labor Economics
	+ Monopsony, Oligopsony
* Extra topic: Urban economics:
	+ Firm’s location choice, capital & labor intensity

**Part 3: Market structures**

* Chapter 24 & 25: Monopoly & Monopolistic Competition
	+ 3 Degrees of price discrimination
	+ Differentiated products
* Chapter 27 -29: Oligopoly & Game Theory
	+ Prisoner’s Dilemma
	+ Nash Equilibrium
	+ Price vs quantity competition: Cournot vs Bertrand
	+ Simultaneous game vs Sequential game: Stackelberg
	+ Collusion
* Extra topics: More Games:
	+ Principle-agent problem
	+ Auction

**7/07 Exam 2 (20%)**

**7/09-7/28: Externality, Welfare, and Public Economics**

**Part 4: Policy & Public Economics**

* Chapter 32-35: Economics of the public sector
	+ Welfare
	+ Social planner vs Private decision
	+ Externality
	+ General Equilibrium
	+ Public goods
	+ Tax & Subsidy
* Extra topic: Environment
	+ Climate change & energy policies
	+ Agriculture economics
* Chapter 36: Asymmetric information & Information economics
	+ Adverse Selection & Moral Hazard
* Extra topics: Health economics
	+ Health insurance: pooling vs separating contracts
	+ Health policy: The American healthcare vs the world
	+ Public Health

**7/31: Exam 3 (20%)**