

INTERMEDIATE MICROECONOMIC ANALYSIS (01:220:320:04) – SPRING 2018 OKADA

CONTACT INFORMATION

INSTRUCTOR : **Dr. Daijiro Okada**
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New Jersey Hall 401
Office Hours: Wednesday 10:00 – 11:30 AM or by appointment.

COURSE DESCRIPTION

In this course, you will learn microeconomics by solving problems *collaboratively* in small groups during the class. There is no required textbook for the course. But you are required to invest your time, effort, and to have willingness to participate, to learn from others, and to help others learn.

You will also learn the basics of empirical work (data analysis) in microeconomics. You will learn how mathematical models and theories in microeconomics are used to analyze data from the real world.

COURSE MATERIALS AND WEBSITES

Textbook : **None required.**

Suggested as a reference:

- i. *Microeconomic Theory: Basic Principles and Extensions* by W.Nicholson and C.Snyder, 10th or 11th edition, Cengage Learning
- ii. *Microeconomics: Theory and Applications with Calculus* by Jeffrey M. Perloff, 3rd or 4th edition, Pearson

Statistical Software : **Stata**

- * You need to have it installed on your laptop computer.
- * Visit <http://www.stata.com/order/new/edu/gradplans/student-pricing/> to purchase the software. Proof of student status (i.e., copy of your university ID card) is required. I recommend **Stata/IC, Six-month license for \$45**

Course Website : <https://sakai.rutgers.edu>

HOW YOUR GRADE IS DETERMINED

- 1) Quizzes**
 - There will be 9 - 11 quizzes.
 - Each quiz lasts between 20 - 35 minutes.
 - Do not be late for a quiz. I will give no extra time.
 - Each quiz carries 10 points.
- 2) Assignments**
 - There will be two assignments.
 - Assignments will be posted in Sakai and you will be required to upload your completed work.
 - Each assignment carries 10 points.
- 3) Attendance**
 - Attendance will be taken during the class. If you are absent when attendance is taken, you are considered absent from the whole class on that day.
 - For each day of your absence, you will lose 2 points on the next quiz.
 - **If you are absent three times, you will get an F.**

Your letter grade is determined by your weighted average score, w , as defined below.

- **Q**:= Your average score on quizzes after dropping one lowest score
- **A**:= Your average score on the assignments
- **w**:= $0.85 \times Q + 0.15 \times A$

A	$8.5 \leq w \leq 10$
B+	$8.0 \leq w < 8.5$
B	$7.5 \leq w < 8.0$
C+	$7.0 \leq w < 7.5$
C	$6.5 \leq w < 7.0$
D	$5.5 \leq w < 6.5$
F	$0 \leq w < 5.5$

Make-up Policy

- A make-up for a quiz will be given if, and only if, all of the following conditions are met:
 - * you miss an exam because of illness, injury, or family emergency
 - * you notify me within 24 hours after the quiz
 - * you give me documentation that proves the legitimacy of your missing an exam

ACADEMIC INTEGRITY

Any incident of academic dishonesty will be reported to the university office of academic integrity. There will be a disciplinary conference where recommendations for sanctions may be made. If you are sanctioned, you will have a chance to appeal at the appeals committee.

The university policy and disciplinary process – <http://academicintegrity.rutgers.edu>

Separable Violations are especially serious breaches of academic integrity that affect significant aspects of the course work, and characterized by premeditation and dishonest or malicious intent. Examples include:

- Plagiarism
- Copying or using unauthorized materials or devices
- Unauthorized collaboration
- Having a substitute do a course work
- Making up or falsifying evidence or data
- Helping another student commit a violation
- Intentionally destroying or obstructing another student's work.

Sanctions for separable violations include, but are not limited to, one or more of the following

- A grade of XF (disciplinary F) for the course
- Disciplinary probation
- Denial of access to internships or research programs
- Suspension for one or more semesters
- Permanent expulsion from the university with a permanent notation on your transcript.

Course Outline

* Page numbers and problem numbers are for the 11th edition of *Microeconomic Theory: Basic Principles and Extensions* by W.Nicholson and C.Snyder, Cengage Learning (10th edition are in brackets, e.g. [23 – 32], [10.5]). They are provided ONLY as references and do not exactly correspond to topics discussed in the class.

(0) First Class: Calculus assessment test

PART I: BASIC THEORIES AND MODELS OF MICROECONOMICS

Consumer Choice

(1) Theory of preference and utility theory

- Chapter 2 pages 26 – 33 [23 – 32], and Chapter 3 / Problems: 3.1, 3.3, 3.8

(2) How to derive the demand function from the utility theory

- Chapter 2 pages 39 – 45 [36 – 42], and Chapter 4 pages 117 – 129 [113 – 125] / Problems: 4.1, 4.2

(3) How to derive the demand function from the utility theory (Cont'd)

- Chapter 4 pages 129 – 136 [125 – 132] / Problems: 4.5, 4.7

(4) Properties of the demand function derived from utility maximization, and predictions/testable hypotheses of the theory of demand

- Chapter 5 pages 145 – 159 [141 – 154] / Problems: 5.1, 5.2

(5) Marginal analysis of income and substitution effects. Utility, money, and consumer surplus.

- Chapter 2 pages 45 – 46 [32 – 36], Chapter 5 pages 160 – 174 [155 – 169], Chapter 5 Extension pages 181 – 184 / Problems: 5.4, 5.5

(6) Application of utility maximization and the theory of demand

(i) Allocation of time between work and leisure – A theory of labor supply

- Read Chapter 16 pages 581 – 588 [573 – 580] / Problems: 16.1, 16.3

(ii) Consumption today vs consumption tomorrow – A theory of savings

- Read Chapter 17 pages 607 – 613 [595 – 601] / Problems: 17.1

(7) Decision making in the face of uncertainty – How to put a price on the risk you face.

- Chapter 7 / Problems: 7.2, 7.4, 7.5, 7.7

Production and Supply

(8) Technology and Production Function

- Chapter 9 pages 301 – 313 [295 – 305], Extensions pages 329 – 331 / Problems: 9.1, 9.2, 9.3, 9.5 (a) (b) (c), 9.7 (a) (b)

(9) Minimizing the cost of production: Cost function

- Chapter 10 pages 335 – 355 [323 – 344] / Problems: 10.2, 10.3, 10.4

(10) Using cost function to derive production function

- Chapter 9 pages 355 – 363 [344 – 350], Extensions pages 367 – 368 [355 – 356] / Problems: 10.4 [10.5], 10.8 [10.1]

(11) Profit maximization – Supply of output and demand for inputs

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- Chapter 11 / Problems: 11.1, 11.6 [11.2], 11.7 (a) [11.3 (a)], 11.2 [11.4], 11.8

Markets

(12) Competitive market: Equilibrium in one market – Short run and long run

- Chapter 12 pages 409 – 438 [391 – 419], Extensions pages 329 – 331 / Problems: 12.1, 12.4

(13) Competitive market: Equilibrium in one market – Efficiency and consumer welfare

- Chapter 12 pages 438 – 447 [419 – 431] / Problems: 12.6, 12.8

(14) Competitive market: Two markets in equilibria at the same time – Pure exchange economy

- *Exchange* (PDF document available on Sakai site for the course).

(15) Competitive market: Two markets in equilibria at the same time – Economy with production

- *Production Efficiency and General Equilibrium of Competitive* (PDF document available on Sakai site for the course)

(16) Monopoly and Price Discrimination

- Chapter 14 and Chapter 16 pages 595 – 597 [584 – 586] / Problems: 14.1, 14.6, 14.7, 16.5

(17) Markets with asymmetric information: Moral Hazard, Adverse Selection

- Chapter 18 pages 641 – 655 [637 – 642], 663 – 672 [650 – 659] / Problems: 18.4, 18.5, 18.6

(18) Markets with asymmetric information: Nonlinear pricing, Theory of Auction

- Chapter 18 pages 656 – 663 [642 – 650], 672 – 675 [659 – 663] / Problems: 18.2, 18.3, 18.8

(19) What might keep markets from achieving efficiency: Externalities and public goods

- Chapter 19 pages 685 – 703 [670 – 687] / Problems: 19.1, 19.2, 19.6, 19.7

PART II APPLICATIONS: Empirical Analyses in Microeconomics

- Statistical estimation of the demand for gasoline in the US. Estimation of income and substitution effects of an increase in gasoline tax.
- Statistical estimation of cost functions and economies (or diseconomies) of scale for US banks.

Learning Goals

Your goal in this course is to gain basic but thorough understanding of

- constrained optimization and equilibrium analysis using differential and integral calculus,
- the theory of consumer behavior (expenditure minimization and utility maximization)
- the theory of producer behavior (cost minimization and profit maximization),
- how equilibrium price and quantities are determined in perfectly competitive markets,
- how equilibrium price and quantities differ from competitive equilibrium if the market is not perfectly competitive,
- how to measure welfare of consumers and producers and how the structure of the market affects them.

If you successfully complete the course, you would have knowledge and skills needed in virtually every course in the undergraduate economics curriculum.

LEARNING GOALS FOR ECONOMICS MAJORS

1. **Economic Literacy** - Students who complete the major in economics should understand and be able to articulate, both orally and in writing, the core economic principles, concepts and theories that form the foundation for modern economic analysis and economic research.
2. **Economic Numeracy** - Students who complete the economics major should be familiar with the tools, techniques and methods of empirical economics. They should be able to analyze data using computer applications and should be familiar with regression methods and other statistical techniques. They should be able to read and assess general interest articles on economic topics. In addition, they should be able to understand and evaluate key findings in published economic research from a wide range of sources including academic economists, public policy 'think tanks,' and government agencies.
3. **Economic Citizenship** - Upon completion of the major students should be able to apply their understanding of core concepts and quantitative tools to analyze and research real world problems and evaluate alternative economic policy proposals on microeconomic and macroeconomic issues.
4. **Economic Scholarship** – Qualified majors should have an opportunity through such avenues as advanced coursework, faculty interactions, national and local competitions and honors courses and programs to utilize up-to-date methodological tools and become fully engaged in economic research and issues on the frontiers of economics.

Department of Economics
Rutgers, The State University of New Jersey
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