MICROECONOMIC THEORY
220: 320
Spring 2014

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Office Hours

Monday 10:30-11:45 AM

Wednesday 11:00-11:45 AM

Prerequisites: 220:102 (or equivalent) and Calculus 640:135 (or equivalent)

Texts: Current edition:

> **Walter Nicholson and Christopher Snyder,** *Microeconomic Theory: Basic Principles and Extensions*, **11th edition, Thomson/South-Western**

> Previous edition:

> Walter Nicholson and Christopher Snyder, *Microeconomic Theory: Basic Principles and Extensions*, 10th edition

Assignments are given below for the 11th edition and in brackets for the 10th edition. The 11th edition may have slight differences with the 10th edition.

Basis of Evaluation: Announced and unannounced quizzes will determine your grade. There will be no hourly or final examinations, **nor will any extra credit work be provided.** An absence at a quiz, for whatever reason, counts as a 0. However, you may drop your two lowest quiz grades—**except the last quiz**. **Under no circumstances will a make-up be given for a quiz. Dropping two quiz grades substitutes for make-ups.** Economics majors must earn a grade of at least C to receive credit toward their major. An average grade between 85 and 100 is an "A," between 80 and 84, a "B+," between 75-79, a "B," between 70-75, a "C+," between 65 and 69, a "C," between 55-64, a "D," and less than 55, an "F."

Time Required for Class Preparation: You are responsible for preparing the assignment before class. **The average time required to complete an assignment properly is 3 to 4 hours—less time and you are less likely to do well—less than 2 hours and you are unlikely to pass.** Simply reading the assignment will not insure your passing the course. Additional time is required to master microeconomic analysis. Remember Ann Landers' observation, "Opportunities are usually disguised as hard work, so most people don't recognize them."

Learning Goals: This course focuses on learning goals adopted by the Department of Economics.

<u>Economic Literacy</u> – 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 microeconomic analysis and economic research. Using differential calculus and solving linear and nonlinear systems of equations, we apply the techniques of constrained optimization and equilibrium analysis to consumer and producer behavior and to perfectly and imperfectly competitive markets. **We use collaborative group learning to master the essential tools of microeconomic analysis and problem solving. Groups present and discuss their solutions with the class.**

<u>Economic Numeracy</u> – Students who complete the economics major should be familiar with the tools, techniques and methods of empirical economics. **In this course we show how the basic tools of microeconomic analysis can be applied to data on US consumer expenditures to estimate a demand function for gasoline and to data on US banking production to estimate a banking cost function and banking scale economies.**

<u>Economic Citizenship</u> – 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.

In this course, we use the estimated US consumer demand for gasoline to explore the effectiveness of a tax on gasoline in promoting energy conservation, and we use the estimated cost function for US banks to consider whether the largest banks experience scale economies which might offset the systemic risk their size poses to the economy and to evaluate proposals to break up the biggest banks.

<div align="center">**SCHEDULE OF ASSIGNMENTS**</div>

Introduction
    A. Concept of an Economy
    B. Application of the Scientific Method
       to Economics   1. _____
    C. Nature of Scientific Explanation   Problem: "Analyzing Patterns in Data on U.S. Beef
         1. Inductive Models   Consumption," **parts 1-9 only** – prepare in advance
                                   and hand in a hard copy in class – available at the
                                   Sakai website for this section
         2. Deductive Models

                                   Students who have not yet requested or used
                                   apps.rutgers.edu, go to
                                   https://netid.rutgers.edu/ and request access.

I. The Theory of Consumer Choice

                                   2. _____
    A. Deriving Utility Theory   Nicholson, pp. 26-33 [23-32]
       from Preference Theory   Nicholson, ch. 3
                                   Nicholson, 3.1a,b,d; 3.3, 3.8 [3.1a,b,d; 3.3, 3.8]

                                     3. _____
    B. Deriving Demand Theory   Nicholson, pp. 39-45 [36-42]
       from Utility Theory   Nicholson, ch. 4, pp. 117-129 [113-125]
                                   Nicholson, 4.1, 4.2 [4.1, 4.2]

                                   4. _____
                                   Nicholson, ch. 4, pp. 129-136 [125-132]
                                   Nicholson, 4.5, 4.7 [4.5, 4.7]

                                   5. _____
    C. Restrictions on Demand: Nicholson, ch. 5, pp. 145-159 [141-154]
       Testable Hypotheses   Nicholson, 5.1, 5.2 [5.1, 5.2]

                                     Students who have not yet requested or used
                                   apps.rutgers.edu, go to
                                   https://netid.rutgers.edu/ and request access.

                                   6. _____
    D. Slutsky's Decomposition   Nicholson, pp. 45-46 [32-36] (Envelope Theorem),
                                   ch. 5, pp. 160-174 [155-169]
                                   Extensions, pp. 181-184 [178-181]
    E. Consumer's Surplus: Nicholson, 5.4, 5.5 [5.4, 5.5]
       Money-Metric Utility

    F. More on Slutsky's Decomposition   7. _____
         1. Gross and Net Substitutes   Nicholson, ch. 6, pp. 187-196 [182-191]
         2. Gross and Net Complements   Nicholson, 6.1 [6.1]

                                   Students who have not yet requested or used
                                   apps.rutgers.edu, go to

G. Estimating US Gasoline Demand   8. _____
    1. Well-Behaved Demand Function

Hughes, *Curbing the Demand for Gasoline by Increasing and Rebating the Federal Gasoline Tax*, Exercises 1 and 2 – prepare in advance and hand in a hard copy in class – work on your own *without* assistance from others (download the monograph and data set from the Sakai website for the course)

    2. Estimating Substitution and
       Income Effects

    3. Estimating Indirect Utility   9. _____
       and Compensation for a Tax Increase

Hughes, *Curbing the Demand for Gasoline by Increasing and Rebating the Federal Gasoline Tax*, Exercise 3 – prepare in advance and hand in a hard copy in class – work on your own *without* assistance from others. This assignment requires time spent in a university computer lab. Leave enough time to complete the assignment.

H. Consumers' Supply of Labor   10. _____
    Nicholson, ch. 16, pp. 581-588 [573-580]
    Nicholson, 16.1, 16.3 [16.1, 16.3]

I. Consumers' Supply of Savings   11. _____
    Nicholson, ch. 17, pp. 607-613 [595-601]
    Nicholson, 17.1 [17.1]

J. Choice in Uncertain Situations, Portfolio   12. _____
    Theory, and the Pricing of Risk   Nicholson, ch. 7
    Nicholson, 7.2, 7.4, 7.5, 7.7 [7.2, 7.4, 7.5, 7.7]

II. Cost, Production, Profit, and Market Value

A. Technology and the Production   13. _____
    (Transformation) Function   Nicholson, ch. 9, pp. 301-313 [295-305]
       1. Cobb Douglas Production F'n   Nicholson, 9.2, 9.3, 9.5(a, b, c), 9.7(a, b)
                            [9.2, 9.3, 9.5(a, b, c), 9.7(a, b)]

       2. Generalized Leontief Production F'n
       3. Translog Production F'n   Extensions, pp. 329-331 [320-322]

B. Deriving Cost from Production   14. _____
    Nicholson, ch. 10, pp. 333-355 [323-344]
    Nicholson, 10.2, 10.3, 10.4 [10.1, 10.2, 10.3]

C. Deriving Production from Cost: Duality

15. _____

1. Cobb-Douglas Cost Function Nicholson, ch. 10, pp. 355-363 [344-350]
2. CES Cost Function Nicholson, 10.8, 10.4 [10.1, 10.5]
3. Translog Cost Function Extensions, pp. 367-368 [355-356]

D. Estimating Cost Functions

16. _____

Students who have not yet requested or used apps.rutgers.edu, go to https://netid.rutgers.edu/ and request access.

An Exercise in Estimating Bank Cost Functions and Scale Economies: US Banks in 2009 (available on Sakai)

E. Profit Maximization

17. _____

Nicholson, ch. 11, pp. 371-389 [358-374]

1. Output Supply Nicholson, 11.1, 11.6, 11.7a, 11.2 [11.1, 11.2, 11.3a, 11.4]

2. Input Demand

18. _____

Nicholson, ch. 11, pp. 389-396 [374-380]

3. Agency Problems and Managerial Efficiency Nicholson, 11.8 [11.8]
Nicholson, ch. 18, pp. 641-650 [627-637]

F. Value Maximization
1. Market Value of Debt and Equity
2. Effect of Production Decisions on Cash Flow and on the Discount Rate
3. Agency Problems

III. Theory of Markets

19. _____

A. Competition Nicholson, ch. 12, pp. 409-438 [391-419]
1. Partial Equilibrium Nicholson, 12.1, 12.4 [12.1, 12.4]

20. _____

2. Economic Efficiency and Welfare Analysis Nicholson, ch. 12, pp. 438-447 [419-431]
Nicholson, 12.6, 12.8 [12.6, 12.8]

3. General Equilibrium of Exchange

21. _____

Walter Nicholson, "Exchange," ch. 8, *Microeconomic Theory: Basic Principles and Extensions*, 4th edition, 1989, available on Sakai

4. Production Efficiency, General
   Competitive Equilibrium

22. _____

Brian Binger and Elizabeth Hoffman, "Production Efficiency and General Equilibrium of Competitive Markets," ch. 14, *Microeconomics with Calculus*, 2nd ed., available on Sakai

Nicholson, 13.1, 13.4 [13.1, 13.4]

B. Monopoly and Monopsony

23. _____

Nicholson, ch. 14
Nicholson, 14.1, 14.6, 14.7 [14.1, 14.6, 14.7]
Nicholson, ch. 16, pp.595-597 [584-586]
Nicholson, 16.5 [16.5]

C. Imperfect Competition

24. _____

Nicholson, pp. 254-255, 266-268, 531-540
             [240-241, 252-254, 521-531]
Nicholson, 15.1, 15.2 [15.1, 15.2]
Dominant Firm Problem

D. Markets with Information Problems
     1. Moral Hazard
     2. Adverse Selection

25. _____

Nicholson, ch. 18, pp. 641-655, 663-672
             [637-642,650-659]

     3. Separating Equilibria
     4. Signaling

Nicholson, 18.4, 18.5, 18.6 [18.4, 18.5, 18.6]

E. Applications to Financial Markets
  and Banking
     1. Agency Problems in the Lender-
       Borrower Relationship: Debt vs.
       Equity Contracts
     2. Lemons Discounts and Adverse
       Selection in Lending Markets
     3. Credit Rationing
     4. Internal Finance and Signaling
     5. Role of Financial Intermediaries
     6. Commercial Banks as Delegated
       Monitors: Informational and
       Incentive Advantages Obtained
       from Demand Deposits

26. _____

F. Market Failures to Achieve Efficiency

27. _____

Nicholson, ch. 19, pp. 670-687 [685-703]
Nicholson, 19.1, 19.2, 19.6, 19.7 [19.1, 19.2, 19.6, 19.7]