

FIN 580 FE
DETAILED COURSE PLAN

Version: August 17, 2010

“MT”—Microeconomic Theory: Basic Principles and Extensions (10th edn.)

“IM”—Intermediate Microeconomics and Its Applications (10th edn.)

(Students who have an older edition should see me for corresponding information)

SECTIONS AND ROOMS:

| SECTION | DAYS | TIME | LOCATION |
|----------------|---------------------|---------------------|--------------------|
| FE | Tues./Thurs. | 8:00 – 9:20 | 240 Wohlers |
| MS1 | Tues./Thurs. | 9:30 – 10:50 | 240 Wohlers |
| MS2 | Tues./Thurs. | 12:30 – 1:50 | 3007 BIF |

There will also be occasional, optional sessions on Fridays, conducted by the teaching assistant. These sessions will take place in 240 Wohlers Hall from 10:00 – 11:50.

This course plan is preliminary. It is possible that changes will be made once the semester begins. I will attempt to give you as much notice as possible if changes are necessary. Students who are considering working more than a few days ahead should check with me to make sure that we are going to cover the listed topics. Due dates for problem sets and especially exams are unlikely to change. But, the topics covered on any particular day may change as the semester progresses.

Session 1: August 24, 2010: Overview and Introduction

Readings: IM Chapter 1; MT Chapter 1, syllabus.

| Topics |
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| <ul style="list-style-type: none">• Economic Method |
| <ul style="list-style-type: none">• Supply, Demand, Markets |
| <ul style="list-style-type: none">• Administrative Details |

Handouts/Postings: Links for readings for weeks 1 and 2 on compass. Problem set #1 is available on compass, due Wednesday, September 2, 2010.

Session 2: August 26, 2010: Consumer Theory Basics

Readings: IM Chapters 2,3 ; MT, Chapter 3, 4 through p. 124.

| Topic |
|---------------------------------|
| • Demand Curves |
| • Preferences & Utility |
| • Budget Constraints |
| • Utility Maximization |
| • Marginal Rate of Substitution |

Handouts/Postings:

Session 3: August 31, 2010: Demand and Elasticities

Readings: IM Chapters 3,4; MT Chapters 5 & 6.

| Topic |
|-----------------------------------|
| • Changes in Wealth |
| • Changes in Prices |
| • Income and Substitution Effects |
| • Elasticities |
| • Substitutes & Complements |
| • Market Demand |
| • Revenue & the Demand Curve |

Handouts/Postings:

Session 4: September 2, 2010: Supply, Production and Costs

PROBLEM SET #1 DUE TODAY

Readings: IM Chapters 7,8; MT Chapters 9, 10.

| Topic |
|---|
| • Firms' objectives |
| • Profit maximization and cost minimization |
| • Production Functions, isoquants |
| • Marginal Rate of Technical Substitution |
| • Returns to scale |
| • Cost minimization |
| • Substitutes, complements in production. |

Handouts/Postings: Problem Set #2 available on compass. Due Monday, September 14.

Session 5: September 7, 2010: Cost Functions, Profit Maximization and Supply

Readings: IM Chapters 8,9; MT Chapters 10, 11

| Topic |
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| • Conditional Factor Demand |
| • Cost Function |
| • Fixed vs. Variable Cost |
| • Average vs. Marginal Cost |
| • Graphical relationship between cost curves. |
| • Efficient Scale |
| • Avoidable vs. Unavoidable (sunk) costs. |
| • Short-run vs. Long-run costs |
| • Profit Maximization & Supply curves. |
| • Short run vs. Long run supply. |

Handouts/Postings:

Session 6: September 9, 2010: Economics Profit, Aggregating Supply, Markets (+ Catch-up).

Readings: IM Chapters 9,10; MT Chapters 11, 12.

| Topic |
|---------------------------------|
| • Industry Supply |
| • Economic Cost |
| • Perfectly Competitive Markets |
| • Equilibrium |
| • Short Run Equilibrium |
| • Entry & long-run equilibrium |

Handouts/Postings:

Session 7: September 14, 2010: Markets and Efficiency

PROBLEM SET #2 DUE TODAY

Readings: IM Chapters 10,11; MT Chapter 12*

| Topic |
|-------------------------------------|
| • Demand and willingness to pay |
| • Consumer Surplus |
| • Supply and willingness to provide |
| • Producer surplus |
| • Total surplus and Efficiency |
| • Distributional Issues |
| • Example: Price controls |
| • Deadweight loss & distortions |
| • Example: Price floors |

Handouts/Postings:

Session 8: September 16, 2010. Markets & Efficiency II

Readings: IM Chapters 11,12; MT Chapters 12, 13.

| Topic |
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| • Taxation & Efficiency |
| • DWL of taxation |
| • Legal vs. Economic Incidence |
| • Taxes & Elasticity |
| • International trade |
| • Market Making |
| • General Equilibrium |
| • Efficiency in GE |
| • Fundamental Welfare Theorems |
| • Financial Market Efficiency |

Handouts/Postings:

Session 9: September 21, 2010

PROBLEM SET #3 DUE TODAY

Review Session for First Midterm

Session 10: Thursday, September 23, 2010.

First Midterm: For the MSFE section (8:00 – 9:20), the midterm exam will be held in class. For the MSF sections (9:30 – 10:50 & 12:30 – 2:00), the midterm exam will be held from 7 – 8:20 in Mumford Hall Room 103. Sample midterm question will be distributed before the exam.

Sessions 11 and 12: September 28 – 30, 2010

Consumption over time and capital markets.

Readings: Additional Reference: Silberberg and Suen, The Structure of Economics: A Mathematical Analysis (3ed), Chapter 12.

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| Session 12 Topics |
| • Intertemporal preferences, prices and interest rates |
| • 2 period choice model |
| • Income |
| • Fisher's Theorem |
| Session 13 Topics |
| • Separable Utility & Discounting |
| • Lifecycle Savings/Permanent Income Hypothesis |
| • Dynamic Consistency |
| • Hyperbolic Discounting |
| • Intertemporal Supply, Future Consumption, Stocks and Flows |

Handouts/Postings:

Sessions 13 - 16: October 5 – 14, 2010

PROBLEM SET #4 DUE OCTOBER 7, 2010.

Economics of risk and uncertainty with application to financial markets.

Session 13 started with finishing up intertemporal supply, linking rental rates and prices for capital goods. Readings for these topics include IM Ch. 5 and MT Ch. 7. Chapter 13 of Silberberg and Suen is also a good reference. In general, this section of the course draws on many sources. Some finance references you may find helpful include:

- *Quantitative Financial Economics*, Cuthbertson and Nitzsche, Chapters 13 and 14. This is also useful for Mean-Variance theory and CAPM .
- *Intermediate Financial Theory*, Danthine and Donaldson, Chapters 3 - 6 cover risk aversion demand for financial assets, Chapter 7 is on CAPM, Chapters 8 and 10 are on Arrow-Debreu, and chapter 9 is on CCAPM.
- *Theory of Asset Pricing*, Pennacchi, Chapters 1 - 4 cover choice under uncertainty, Mean-variance, consumption-savings and state pricing. May be a bit more technical.

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| Session 13: Choice Under Uncertainty I |
| • Lotteries/Random Variables |
| • Review of Statistics, Mean, Variance, Covariance |
| • Expected value vs. Expected Utility |
| • Utility for Money and Risk Aversion |
| • Independence of Irrelevant Alternatives and the Allais Paradox |

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| Session 14: Choice Under Uncertainty II |
| • Risk attitudes and Concavity |
| • Certainty Equivalents and Risk Attitudes, Risk Premium |
| • Demand for Insurance |
| • Measuring Risk Aversion, relationship to certainty equivalents |
| • Risk Aversion and Wealth |
| • Relative Risks |
| • Ellsberg's Paradox |

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| Session 15: Choice Under Uncertainty III |
| • Portfolio Choice |
| • When to invest in a risky asset? |
| • Normal-Exponential Model and Mean-Variance Utility |
| • Efficient Mean-Variance Portfolios |

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| <ul style="list-style-type: none"> • Portfolio Choice and Separation |
| <ul style="list-style-type: none"> • Connection to CAPM |

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| Session 16: Choice Under Uncertainty IV |
| <ul style="list-style-type: none"> • Part I: State Preferences <ul style="list-style-type: none"> ○ States of the World ○ Contingent Commodities ○ Utility & Prices with Contingent Commodities, State Prices ○ Risk Aversion and States ○ Complete Markets ○ Using Options to Complete Markets & Arrow-Debreu Theory • Part II: Prospect Theory <ul style="list-style-type: none"> ○ Descriptive vs. Normative ○ Biases in probability assessments ○ Framing Effects ○ Loss Aversion ○ Prospect Theory • Part III: CCAPM and Equity Premium Puzzle <ul style="list-style-type: none"> ○ Consumption-based asset pricing ○ Stochastic Discount Factor ○ Equity Premium Puzzle & Attempts to Resolve It |

Sessions 17 - 18: October 19, 2010 – October 21, 2010

PROBLEM SET #5 DUE OCTOBER 19, 2010.

Market Failures: Externalities and Public Goods.

Readings: IM, Ch. 18. MT Ch. 19.

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| Part I: Externalities |
| <ul style="list-style-type: none"> • Externalities & Pecuniary Externalities • Model: Negative Externalities • Positive Externalities • Market Failure • Solutions to the Externalities Problem • Centralization vs. Decentralization • Quotas • (Pigouvian) Taxes |

Externalities and Public Goods, II. Readings: IM Ch. 18, MT, Ch. 19. A slightly more technical version that stays very close to what I'm saying is chapter 8 at http://www.hks.harvard.edu/nhm/notes_download_2006.htm.

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| Part I: Externalities, continued. |
| • Bargaining & Coase's Theorem |
| • Market Making |
| • Cap & Trade |
| Part II: Public Goods |
| • Public Goods |
| • A Taxonomy of Goods |
| • Voluntary Contribution and Underprovision |
| • Solutions to Public Goods Problems |

Session 19: October 26, 2009

PROBLEM SET #6 DUE OCTOBER 26, 2010

Review Session for Second Midterm

Session 20: October 28, 2010

Second Midterm: For the MSFE section (8:00 – 9:20), the midterm exam will be held in class. For the MSF sections (9:30 – 10:50 & 12:30 – 2:00), the midterm exam will be held from 7 – 8:20 in Mumford Hall Room 103.

Session 21 - 22: November 2-4, 2010

Monopoly & Pricing: Readings MT, Ch. 14, IM, Ch. 13. A slightly more technical version is available at <http://www.ksg.harvard.edu/nhm/notes2006/notes9.pdf>

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| Monopoly |
| • Uniform Pricing |
| • DWL of Monopoly |
| • Declining Price Schedule/Non-linear Pricing |
| • Two-part Tariffs |
| • Natural Monopoly and Regulation |
| • Ramsey Pricing |

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| Pricing |
| • Price Discrimination |
| • 1 st Degree |
| • 3rd Degree |
| • 2 nd Degree/Screening |
| • Product Design |

Session 23 – 24: November 9 – 11, 2010

PROBLEM SET #7 DUE NOVEMBER 16, 2010

Game Theory and Strategy: Readings: MT 8, IM 6. Additional Reference: Dixit and Nalebuff, *Thinking Strategically*, Norton, 1993.

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| Game Theory I |
| • Simultaneous Games |
| • Sequential Games |
| • Backward Induction |
| • Public Goods Game |
| • Auction jar of coins |
| • Auction \$20 bill |

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| Game Theory II |
| • Prisoners' Dilemma |
| • Dominant Strategies |
| • Dominated Strategies |
| • Finance Examples: <ul style="list-style-type: none"> ○ Tough-Guy Tender Offer ○ Coercive Bond Exchanges |
| • Nash Equilibrium |
| • Auctions |
| • Winner's Curse |

Session 25: November 25, 2009

Oligopoly, Market Structure, Industrial Organization: Readings, IM 14; MT 15.

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| • Taxonomy of Market Structures |
| • Monopolistic Competition |
| • Cournot Model |
| • Bertrand Model |
| • Capacity Competition |
| • N-firm Cournot |
| • Stackelberg Duopoly |
| • Managerial Incentives |
| • Brander-Lewis Model |

Sessions 26 - 28: November 18, 2010; November 30, 2010; December 2, 2010.

NOTE: Thanksgiving break is from November 20 – November 29, 2010. There will be no class this week.

Macroeconomics: References Mankiw, N., Brief Principles of Macroeconomics, 5th ed. or Abel, Bernanke, Croushore, Macroeconomics, 6th ed. Note: Mankiw's Principles of Macroeconomics or Principles of Economics would also work. Earlier editions of any of these are also fine. The goal of the lectures is to be self-contained, and the texts are expensive, so I recommend against buying one, but they may be available from the library.

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| Macroeconomics I |
| • Macroeconomics and Overall Economic Activity |
| • Measuring GDP |
| • Measuring Inflation |
| • Determinants of GDP (Production) |
| Macroeconomics II - III |
| • Growth (Ramsey model) |
| • Savings, Investment and Interest Rates |
| • The Monetary System |
| • Aggregate Supply and Demand |
| • Economic Indicators |

Note: Depending on how things progress over the course of the semester, the class session on December 2 will either be a third lecture on macroeconomics or used as a catch-up/review day.

Sessions 29: December 7, 2010

Review

PROBLEM SET #8 DUE DECEMBER 7, 2010

Final Exam: TBA to be scheduled by the University.