

DePaul University
ADVANCED MICROECONOMICS I - ECON 505
Fall 2019

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Office Hours: Mondays 3:00 – 4:00pm

Required text: Jeffery Perloff, Microeconomics Theory and Applications with Calculus, (5th Edition), Boston: Pearson , ISBN 10: 0-13-518377-4; 2020

Supplemental text: A.C. Chiang, Fundamental Methods of Mathematical Economics, Third Edition, New York: McGraw-Hill Book Co., 1984 (on reserve in the Loop Library)

This course gives an overview of the theories and techniques used in the economic analysis of the household/consumer, along with an introduction to the theory of the firm. The course is fairly rigorous and mathematical, so I strongly suggest that the student review his or her calculus. We will work through Perloff very slowly. Students should ask questions or interject comments during lecture, otherwise I will just lecture. Both exams will be weighted 40% in determining the grade, with the remaining 20% allocated to homework. Classroom participation/attendance will be used to determine borderline grades.

The student is expected to be sufficiently proficient in math.¹ We will use calculus extensively throughout this course. You are expected to have participated in the Department's Math Bootcamp. In addition, I have included Chiang's Mathematical Economics text as a reference book -- it is an excellent Mathematical Economics text. It is on reserve in the Loop Library (10th floor DPC). **My lectures notes are also included in D2L.**

Examinations:

1. Once the exam begins, no one can leave the classroom for any reason (go to the bathroom before the exam begins).
2. Calculators will be provided by the instructor -- no personal calculators allowed.

¹ The level of mathematics used in this course is equivalent to Mathematics for Economists (ECON 380). Be sure you have taken this course (and/or have taken the mathematics boot camp taught in August), or you will have a difficult time in this course.

FUNDAMENTALS OF CONSUMER CHOICE

TOPIC	READINGS	D2L HANDOUTS	Detailed topics
WEEK 0: Math boot camp Review of Math;STATA	Chiang Ch. 6-12	HDT -Rules of Calculus HDT – Mansfield B-2 Bomber blunder HDT – Chiang Homogeneous Fcn.	Rules of differentiation; FOC; Unconstrained and constrained optimization; Cost/benefit analysis; Homogeneous functions (esp.Cobb-Douglas)
THEORY OF THE CONSUMER			
WEEK 1: Consumer Preferences; Equilibrium	Perloff - Ch. 3	CRE - Cobb Douglas Utility Fcn.	Commodity Space; Consumer's preferences (notation, Debreu's existence theorem, cardinal vs. ordinal); Indifference curves; MRS; Constrained utility maximization (geometric vs. LaGrangian);
WEEK 2: Consumer Demand; Marshallian vs Hicksian Demand	Perloff - Ch. 4	HDT - Primal and Dual Problem CRE – Marshallian Demand	Engel Curves; Cross-price demand fcn.; Own-price demand (Marshallian) fcn. (X^M); $SE + IE = TE$; Primal vs. Dual problem; Compensated (Hicksian) demand fcn. (X^H)
WEEK 3: Individual's demand elasticities; Laws of demand	Layard & Walters (pp. 133-43)	HDT -Elasticity Notation CRE - Elasticity HDT –Laws of Demand and Elasticity CRE - Laws of Demand	Elasticity definition & formula; Laws of demand
WEEK 4: Market Demand; Behavior under Uncertainty	Perloff - Ch. 16	CRE – Topics in Consumer Theory	von Neumann-Morgenstern utility fcn.; Expected utility; Attitude towards risk; Why buy insurance?; Criminal Behavior
MIDTERM – probably in Week 5 (10/14/19) HDT - Midterm Review Questions			

Note: Chiang = Alpha Chiang's textbook (on reserve)
CRE = Classroom Exercise in D2L (print off and bring to lecture)
HDT = Handout in D2L (print off and bring to lecture)

WEEK 6 – 8: WELFARE ECONOMICS			
TOPIC	READINGS in B&H	D2L HANDOUTS	Detailed topics
WEEK 6: Social Surplus, Pareto vs Kaldor-Hicks	Perloff – Ch 5	CRE – Social Surplus	Consumer vs Producer Surplus; Pareto Principle; Kaldor-Hicks
WEEK 7 & 8: Pure Exchange; Competitive Equilibrium; Welfare Theorems	Perloff – Ch. 10 SEE LECTURE NOTES	HDT - Solving Comp. Equil for Pure Exchange CRE – Comp. Equil in Pure Exch. Econ. CRE – Welfare Theorems	Pure Exchange Economy; Edgeworth Box; Gains from Trade; Contract Curve is Pareto Optimal (PO); Competitive Equilibrium (CE); tatonnement process; Two Welfare Theorems
THEORY OF THE FIRM			
WEEK 8: Intro to Firm		HDT - CEO Compensation	Objective of the Firm
WEEK 9: Production Theory; Cost Theory	Perloff - Ch. 6 & 7	HDT - Production Function; CRE – Production Theory CRE – Cost Theory	Technology in SR (and the TP_L) versus LR (isoquants, MRTS); cost minimization and cost functions
WEEK 10: Perfect Competition	Perloff - Ch. 8 & 9		
HDT - Final Exam Review Questions			
TAKE-HOME FINAL EXAM – due 11/25/19			

