ECONOMICS 100B: MICROECONOMICS

Spring 2014
MWF 1:00-1:50, Center Hall 214

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Office Hours: M 2-3; W 3-4 in Econ 111

TA	Session place/time	Office, Office Hours
Sec. C01: Xuan Ding x3ding@ucsd.edu	CSB 001; M 7:00pm-7:50pm	SH 206; W 10:00am-11:00am F 2:00pm-3:00pm
Sec. C02: Xuan Ding x3ding@ucsd.edu	CSB 001; M 8:00pm-8:50pm	

Course Objectives: Econ 100B analyzes the theory of the firm and markets when there is price taking behavior. Topics include the theory of production, commodity supply and input demand in competitive markets, and competitive market equilibrium.

Required Texts:
(1) Perloff, Jeffrey M. (2013) *Microeconomics: Theory and Applications with Calculus, 3rd edition*. Pearson/Addison-Wesley.
(2) Mark Machina's Econ 100ABC Math Handout.

Web Resources: You are encouraged to take advantage of the following supplemental material for the 100ABC sequence, available free over the Internet.

(1) Martin Osborne's intermediate mathematics tutorial:
http://www.economics.utoronto.ca/osborne/MathTutorial/index.html
(2) Preston McAfee's Introductory textbook (this material is at a level between most microeconomics principles textbooks and Perloff's more advanced treatment.) http://www.introecon.com/

Weekly Homework: Each week, I will post practice problems on Ted. They will not be graded. The best way to prepare for the exams is to form study groups and practice doing the problem sets together. I will post the answers after the problems are reviewed in TA sessions.

Exams: Grading will be based on two midterms (25% each) and a final examination (50%). The final exam will be cumulative. You must take both midterms. All exams are closed book, and you may not use calculators and cell phones during the exams. There will also be one quiz (I will announce its date and what it will cover later) that can you bring you some extra credit points.

Regrade Requests: I will give back the midterm exams in class. You can ask for a regrade before you leave the room with your exam. Your whole exam will be regarded, and your score can go up or down. If you don't think you have enough time to look at your exam after the class, you can pick up your exam from my office during my office hours.

Schedule:

Week	Topic	Text Ch./Math Handout Section
1, 2	Theory of Production	Ch. 6
	Midterm 1, April 18	
3, 4	Theory of Cost	Ch. 7
5, 6	Profit Maximization and Supply Under Perfect Competition	Ch. 8
	Midterm 2, May 23	
7	Demand for Factors of Production	Ch. 15
8	Equilibrium, Dynamics & Comparative Statics of Perfectly Competitive Markets	Ch. 9
9, 10	General Equilibrium	Ch. 10
	Final, June 12, 11:30-1:30	

FAMOUS OPTIMIZATION PROBLEMS IN ECONOMICS

Optimization Problem	Objective Function	Constraint	Control Variables	Parameters	Solution Functions	Optimal Value Function
Consumer's Problem	$U(x_1,...,x_n)$ utility function	$p_1 \cdot x_1 + ... + p_n \cdot x_n = I$ budget constraint	$x_1,...,x_n$ commodity levels	$p_1,...,p_n, I$ prices and income	$x_i(p_1,...,p_n,I)$ regular demand functions	$V(p_1,...,p_n,I)$ indirect utility function
Expenditure Minimization Problem	$p_1 \cdot x_1 + ... + p_n \cdot x_n$ expenditure level	$U(x_1,...,x_n) = u$ desired utility level	$x_1,...,x_n$ commodity levels	$p_1,...,p_n, u$ prices and utility level	$h_i(p_1,...,p_n, u)$ compensated demand functions	$e(p_1,...,p_n, u)$ expenditure function
Labor/Leisure Decision	$U(H,I)$ utility function	$I = I_0 + w \cdot (168 - H)$ budget constraint	H, I leisure time, disposable inc.	w, I_0 wage rate and nonwage income	$168 - H(w, I_0)$ labor supply function	$V(w, I_0)$ indirect utility function
Consumption/ Savings Decision	$U(c_1,c_2)$ utility function	$c_2 = I_2 + (1+i) \cdot (I_1 - c_1)$ budget constraint	c_1, c_2 consumption levels	I_1, I_2, i income stream and interest rate	$c_1(I_1, I_2, i)$, $c_2(I_1, I_2, i)$ consumption functions	$V(I_1, I_2, i)$ indirect utility function
Long Run Cost Minimization	$w \cdot L + r \cdot K$ total cost	$F(L,K) = Q$ desired output	L, K factor levels	Q, w, r desired output and factor prices	$L(Q,w,r)$, $K(Q,w,r)$ output-constrained factor demand functions	$LTC(Q,w,r)$ long run total cost function
Long Run Profit Maximization (in terms of Q)	$P \cdot Q - LTC(Q,w,r)$ total profit	none	Q output level	P, w, r output price and factor prices	$Q(P,w,r)$ long run supply function	$\pi(P,w,r)$ long run profit function
Long Run Profit Maximization (in terms of L and K)	$P \cdot F(L,K) - w \cdot L - r \cdot K$ total profit	none	L, K factor levels	P, w, r output price and factor prices	$L(P,w,r)$, $K(P,w,r)$ factor demand functions	$\pi(P,w,r)$ long run profit function