

COURSE SYLLABUS
for
AREC 404 — PRODUCTION ECONOMICS AND POLICY ANALYSIS
(AKA temporary combined 404 and 464 class)

FALL 2009

Instructor: Bruce Beattie

Office/Phone: 328 Chavez Building
621-9642 (O)
232-0743 (H)
email: beattie@email.arizona.edu

Office Hours: Open door *except* 11:15-2:00 daily and 8:00-9:15 on T/Th.

Course Description:

Fundamentals of production economics and policy analysis. Theory of the firm with emphasis on product supply, factor demand, and resource allocation. Both price-taking and price-making cases are considered. Properties of alternative production function models are explored. Introduction to policy analysis using farm policy examples.

Prerequisites: ECON 300 or 361 *and* MATH 113

Evaluation of Student Performance:

Possible Pts. for Alt. Strategies

	<u>Best</u>	<u>2nd Best</u>	<u>Worst</u>
Five 20-point Problem/Writing Sets (PWSs)*	100	80	80
Midterm Exam 1 (approx. at end of Section II)	100	100	> 100
Midterm Exam 2 (approx. at end of Section IV)	100	100	
Final Exam (“optional”)**	---	100	150

*PWSs are due at beginning of class on due date. Your lowest PWS score may be dropped in determining your total PWS points earned, *if* you elect to (or must) take the final exam.

**Each exam, including the optional final, will be cumulative but will emphasize material covered since the previous exam. No make-up exams will be given. In the case of an emergency, judged valid by the instructor, one missed midterm exam score may be replaced by taking an expanded (two additional problem/essay questions) final exam (the “worst” strategy above). If you do all five PWSs and are satisfied with your course grade based on PWS and midterm exam scores, you may opt out of the final exam (the “best” strategy above). If you do poorly on one or both midterms and/or one or more PWSs, you will have the option of taking the final exam in hopes of improving your final grade (“2nd best” option above).

Text: Six eChapters from Mankiw’s *Principles of Microeconomics*, 4th ed. (for background/review), in-class handouts, and selected readings posted on class website.

Outline for Revised AREC 404: Production Economics and Policy Analysis

I. Review

- A. Algebra and elementary differential calculus
- B. Principles of microeconomics (review Mankiw Chs. 1 & 4)
 - 1. Determinants of consumer demand
 - 2. Determinants of producer supply
 - 3. Industry supply and demand – the market mechanism
 - 4. Key assumptions (perfect knowledge; certainty; timeless, monopiod analysis; extent of market power; utility maximization and profit maximization)
 - 5. Comparative statics and ceteris paribus

II. Producer Theory (with price-taking behavior)

- A. Production functions and key properties
- B. Factor costs (variable factor costs, total factor costs, average factor cost, and marginal factor cost)
- C. Input-side profit maximization with one variable factor and factor demand
- D. Cost minimization and the expansion path
- E. Variable costs of production (review Mankiw Ch. 13)
 - 1. Relationship to the production function for single-variable-factor case
 - 2. Relationship to the production function for two-variable-factor case
- F. Average variable cost, average total cost, and marginal cost relationships
- G. Output-side profit maximization and product supply
- H. Market (aggregate/industry) supply
- I. Properties of market supply (homogeneity; comparative static own- and cross-price effects; LeChatalier principle)
- J. Supply elasticities
- K. Demand elasticity parallels
- L. Six alternative ways to think about profit

III. The Competitive Market Model and Economic Welfare (review Mankiw Ch. 7)

- A. Equilibrium price and quantity
- B. Consumers' surplus
- C. Producers' surplus (profit exclusive of fixed cost)
- D. The "invisible hand" and maximization of economic welfare (economic efficiency)
- E. Market failure (public goods, externalities, and market power)

IV. Monopoly (price-making behavior) and Economic Welfare (review Mankiw Ch. 15)

- A. Output-side profit-maximization when product price is endogeneous
- B. Implications for product supply
- C. Implications for economic efficiency

- D. Policy options for dealing with market failure due to monopoly: Pros and cons of government intervention

V. Introduction to Policy Analysis (review Mankiw Ch. 6)

- A. Implications of market intervention absent market failure (binding ceiling prices and product shortages; binding floor prices and product surplus)
- B. Intervention for rent seeking gain (redistribution of producers' and consumers' surplus, taxpayer burden, and dead-weight loss using farm policy examples)
 - 1. Free market
 - 2. Price subsidy (binding price floor) without supply control
 - 3. Price subsidy with perfect supply control
 - 4. Target price with deficiency payment
- C. Other interventions: those involving supply and demand shifts (R&D; export/demand enhancement schemes)
- D. Implication of differing supply and demand elasticities on A, B, and C above

Class Schedule for Fall 2009:

<u>Week</u>	<u>Tuesday</u>	<u>Thursday</u>
1	25 Aug	27
2	1 Sept	3
3	8	10
4	15	17 (PWS #1 due)
5	22	24
6	29	1 Oct (PWS #2 due)
7	6	8 (Exam #1)
8	13	15
9	20	22 (PWS #3 due)
10	27	29
11	3 Nov	5 (PWS #4 due)
12	10	12 (Exam #2)
13	24	25 Thanksgiving Holiday
14	1 Dec	3 (PWS #5 due)
15	8 Last class	
16		17 Final Exam (2:00 – 4:00)

Purchasing Mankiw Chapters:

- Go to **ichapters.com**
- Enter Mankiw (in author block) and click “search”
- Click on “view” for chapters of *Principles of Microeconomics, 4th Edition*
- Select **Chapters 4 (The Market Forces of Supply and Demand), 6 (Supply, Demand, and Government Policies), 7 (Consumers, Producers, and the Efficiency of Markets), and 13 (The Costs of Production)*** and then click “add” (Note: Chapter 1 comes free)
- Click “checkout” (Total Cost should be \$19.96—\$4.99 each for four chapters)

*I suggest you not purchase Chapter 15 (Monopoly) until later in the semester. If we run short of time, we will skip section IV on monopoly.