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Documentation for Economics 210 and 330

Elizabeth R. Da Costa

Wright State University - Main Campus

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DOCUMENTATION FOR ECONOMICS 210 AND 330

An Internship Report submitted in partial
fulfillment of the requirements for the degree of
Master of Science

By

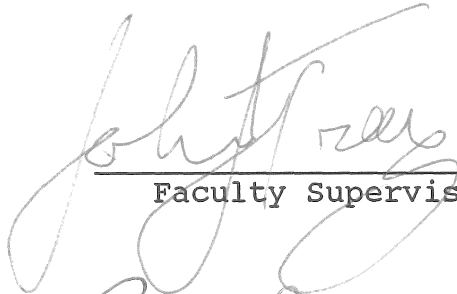
ELIZABETH R. DA COSTA
B.A., Central State University, 1977

1992
Wright State University

WRIGHT STATE UNIVERSITY
SCHOOL OF GRADUATE STUDIES

MAY 1, 1992

I HEREBY RECOMMEND THAT THE INTERNSHIP REPORT PREPARED UNDER MY SUPERVISION BY Elizabeth R. DaCosta ENTITLED Documentation for Economics 210 and 330 BE ACCEPTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF Master of Science.



Faculty Supervisor



Director M.S. in Social
and Applied Economics

ABSTRACT

DaCosta, Elizabeth R. M.S. in Social and Applied Science in Economics, Wright State University, 1992. Documentation for Economics 210 and 330.

For my internship project for the M.S. degree in Economics I propose to teach the courses listed below at Central State University, Wilberforce, Ohio, during the Winter Quarter, 1992. As it is necessary for Dr. Peter Iwomi, Acting Chairperson for the Department of Economics, to be away from the campus during the first four weeks of the quarter, I have been hired to teach these two Economics courses in his absence. Upon Dr. Iwomi's return, I shall continue teaching the Economics 210, Microeconomics course, but will assist with the Economics 330, Intermediate Microeconomics course, as necessary.

1) ECONOMICS 210-02 -- MICROECONOMICS

I shall teach this course throughout the entire quarter. It is a 4-credit hour course which meets 4 days a week, Monday through Thursday from 10:00 - 10:50 a.m. in Smith Hall, Room 324.

The text used for the course is ECONOMICS by Ralph T. Bynnes and Gerald W. Stone -- 4th edition.

Approximately 54 students have enrolled in the course.

2. ECONOMICS 330-01 -- INTERMEDIATE MICROECONOMICS

I shall be teaching this course for approximately four weeks of the quarter, during Dr. Iwomi's absence.

This is also a 4 credit hour course which meets 4 days a week, (Monday through Thursday), from 12:00 noon to 12:50 p.m. in

Room 316, Smith Hall.

The text used for the course is MICROECONOMICS: THEORY AND APPLICATIONS by Edwin Mansfield, 7th edition.

Approximately 17 students have enrolled in the course.

In order to evaluate my performance, at the end of the quarter I shall submit a complete file for each course which will contain copies of lecture notes; homework assignments; a summary of tests; an analysis of grades, and evaluation forms completed by the students and by Dr. Iwomi, my advisor at Central State. Also included will be comments regarding the class' progress and any problems encountered along with their solutions. I shall also be conferring with Dr. John Treacy, my advisor for this internship project.

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ECONOMICS 210 - GENERAL INFORMATION

CENTRAL STATE UNIVERSITY

Department of Economics

SYLLABUS
Economics 210

COURSE TITLE: PRINCIPLES OF MICROECONOMICS
Econ 210 -- 4 credit hours

INSTRUCTOR: E. DaCosta

OFFICE: Room 212, Smith Hall

TELEPHONE: 376-6446 or 376-6559

OFFICE HOURS: 11:00 - 11:50 M-Th
or by appointment

COURSE PREREQUISITE: No prerequisite

COURSE DESCRIPTION:

Economics 210 deals with the fundamentals of Microeconomics. This course exposes students to the core of microeconomic concepts and how such principles are applied to business, household, and public policy decisions.

The course will fully treat the main cornerstones of market economy such as supply, demand, elasticity, scarce resources and the implications and factors that govern supply, profit incentive, the cost of production, the different types of markets, etc.

The course also exposes students to other economic systems in the world.

With an open and intellectual mind, we shall discuss the advantages and disadvantages of the economic systems.

INSTRUCTIONAL OBJECTIVES:

A. KNOWLEDGE: Students should be able to:

- Understand the major functions of supply and demand in a market economy;
- Clearly understand how elasticity governs supply and demand;
- Know the various factors that motivate consumer and producer;
- Know how other economic systems work;
- Know the relationship between scarcity and choices that people make, and,

-Know the roles of government, business and households in the economy.

B. SKILLS: The following are vital skills that students should attain:

Analytical Skills: Students should be able to analyze and know how one variable affects another.

Graphical Skills: Enables students to use graphs and diagrams as tools of analysis

Mathematical Skills: Enable students to apply mathematical skills to economic reasoning and to enable students to use computers in economics.

C. ATTITUDES:

To inculcate in the students the inquisitive and intellectual attitude toward economics.

To enable students to apply economic reasoning in their business dealings.

To develop positive attitudes towards the study of economics.

D. VALUE:

This course lays a vital foundation for real life situations.

The course has carry-over effects to other courses.

The course gives students a vital sense of value for their personal and professional development.

INSTRUCTION STRATEGY/STUDENT ACTIVITIES

The class is conducted through class lectures, demonstrations, discussion and homework assignments. Lectures supplements the text. Students are held responsible for what is covered in the lectures as well as the readings in the text.

A. Attendance:

Attendance is mandatory. Class roll will be called daily.

Any late coming will cost the student 1% of the final grade.

Not more than two (2) legitimate excuses will be accepted unless

it is an extreme emergency.

B. Class Participation:

Students are encouraged to participate in class discussions and proceedings by asking and answering questions, sharing relevant experiences, and making comments that promote the growth of the Knowledge of economics. It is important that students take relevant notes during class.

C. Homework:

Students are to read the chapters and do the relevant homework before coming to class. The treatment of the chapters will be accompanied by homework, and at times the homework may precede the lectures and discussions of the chapters. The relevant homework questions will be discussed in class at the time they are given back to the students. Any late homework, if accepted will receive a reduced grade.

D. Cheating:

The University and the College of Business Administration are terribly sensitive to cheating. A grade of "F" is automatic if caught cheating on examinations, quizzes, homework, etc.

EVALUATION:

The final grade earned in the course will depend on the student's performance on the exams, quizzes, homework, etc. There will be three examinations including the final. Each work or exam is assigned points, the mode of evaluation. The final grade for the course will be based on the standard scale, thus:

A: 90% or above
 B: 80% to 89%
 C: 70% to 79%
 D: 60% to 69%
 F: 50% and below

Homework:	40 points	(20%)
Exam I:	50 points	(25%)
Exam II:	50 points	(25%)
Final Exam:	60 points	(30%)

The instructor will take note of the efforts and progress of students in the course of the quarter and may use his/her professional judgement to award the most suitable grade. There will be no make-up of any type unless there are extenuating circumstances.

TEXTBOOK:

The textbook for the course is:

ECONOMICS by Byrnes and Stone, Fifth Edition.

The textbook also has a study guide and computer software, use of which is optional.

READINGS AND HOMEWORK ASSIGNMENTS

<u>WEEK</u>	<u>READING</u>	<u>HOMEWORK</u>
1	a. Intro and class orientation b. Chap. 1: Scarcity and Choice	<u>Questions</u> P. 17: #3,4,11
2	Chap. 2: Resolving the Problem of Scarcity	P. 42: #1,3,4,6.
3.	Chap. 3: Demand and Supply Chap. 4: Equilibrium	P. 63: #2,5,8. p. 81: #2,6.
4.	Chap.20: Elasticity	p. 420: Prob. 1&2
	*** EXAM 1 ***	
5.	Chap.21: Foundations of Consumer Choices	p.438: #3,8,9.
6.	Chap.22: Foundations of Producers	p.466: #1,3,4,6.
7.	Chap.23: Competitive Ideal Chap.24: Monopoly	p.500: #2,3,4. p.521: #3,7.
	*** EXAM 2 ***	
8.	Chap.25: Monopolistic Competition and Oligopoly	p.541: #1,5,8,10.
9.	Chap.26: Antitrust Policy	p.560: #3,5,6,8.
10.	Chap.36: International Trade Chap.38: Capitalism and its Alternatives	p.769: #3,5. p.807: #1,2,3

CLASS DEMEANOR: Student behaviour in class will be evaluated in determining the final grade. The student is expected to behave and perform in a professional manner--e.g.--be punctual and attend all classes, participate in class, dress appropriately, and be attentive

during classes. Negative behavioural patterns, e.g., unexcused absences, tardiness, class disruptions, eating, drinking or sleeping in class or any other inappropriate behaviour could result in a reduction of up to 10% of a student's final grade. The following university policies should be noted:

NOTE: Absence: The grade of "F" is assigned when the number of unexcused absences exceeds the number of credit hours.

ECONOMICS 210 COMMENTS

ECONOMICS 210GENERAL COMMENTS

Initially, approximately 52 students enrolled in the class, about evenly divided between the sexes. The reason for the large number of students enrolled is that this course was a requirement for most of the students. By the middle of the quarter and after the mid-term exam, however, the number of students decreased, somewhat. Students were attentive and well-behaved in classes, and asked questions, when necessary.

As is usually found, grades tended to reflect a range of abilities or effort--from very good to not so good, with the majority in the middle. I did note, from time to time, that some students were not reading the assignments, and were having some difficulty understanding and applying the concepts. I then re-emphasized the importance of reading the material prior to class, and suggested different techniques for reading, reviewing and retaining the material.

Homework assignments were made weekly, and were given to ensure that the students could apply what they had learned to a given situation.

Answers were graded based on the amount of thought and effort that had been expended, and how well the students argued their points.

When necessary to reinforce a concept or to ensure adequate computational skills, extra problems, (those not listed on the syllabus) were assigned.

ECONOMICS 210 -- SCARCITY AND CHOICECHAPTER 1 COMMENTS

Chapter 1 was an introduction to the study of economics.

"Scarcity" was stressed as the basic economic problem, necessitating choice.

This chapter introduced many economic concepts and definitions such as opportunity cost; factors of production; theory; positive and normative economics; micro vs macroeconomics; efficiency (both production and consumption), and the concept of comparative advantage.

HOMEWORK COMMENTS

TEXT : p. 17: #3, 4, 11

In order to complete the homework assignment, students needed to reflect upon and apply the new concepts--e.g.--opportunity costs and comparative advantage, and to then express their answers in written form.

Most students in the class seriously attempted the homework, giving more than just cursory answers.

It would have been ideal for the students to have word-processed their assignments, but, because of the lack of readily available word-processors, this requirement was relaxed.

LECTURE COMMENTS

As noted in the EC 330 notes, the most difficult part of teaching

a new subject is covering a large amount of material in a limited amount of time, deciding what is most important and limiting discussions to those topics. I have the tendency to cover every topic in class, and this is too much.

I did move slowly the first week, covering chapter one, only, because of late registrants and class introductions.

The only topic students seemed to have difficulty understanding was that of Comparative advantage, but a little explanation rectified this. Any questions regarding the homework assignment prior to its due date were answered, and the answers were reviewed upon the return to the students of the graded work.

ECONOMICS 210 -- RESOLVING THE PROBLEM OF SCARCITYCHAPTER 2 COMMENTS

As Chapter 1 posed the economic problem--i.e.--that of scarcity--, Chapter 2 offered various ways of resolving the problem of scarcity. In this chapter, the basic economic questions which any economic system/society must answer, (what, how, for whom and when) were introduced. Along with this were the notions of production possibilities frontiers (what was possible and what was efficient); diminishing returns and increasing opportunity costs. Also students were able to recognize the effects of inefficient use of resources on the production possibility frontier, as with unemployment, or inflation.

The authors then introduced various different types of allocative mechanisms, of which the market system is one, and, seemingly, the most efficient. The authors finish up the chapter by exploring the various types of economic systems and and by whom and how decisions are made as well as reviewing the foundations of capitalism, defining private property rights and laissez faire.

HOMEWORK COMMENTS

TEXT: p. 42: #1, 3, 4, 6.

Because many of the students had difficulty understanding why the shape of a PPF is often concave from below, I gave an example of the production of two extremely disparate goods, illustrating resource suitability and increasing costs, and assigned problem #1.

Problem #3 deals with various allocative mechanisms, and reinforces the idea that an economic arrangement is inefficient if, through some rearrangement, some could gain with no-one else losing.

Problem #6 also expands upon the list of allocative mechanisms by dealing with merit and credentials.

Problem #4 has the student use relate the concept of "opportunity cost" to a real world situation.

Lecture Notes

Special emphasis was placed on the production possibilities curve and the explanation of its shape--whether concave to the origin or straight line--as related to the substitutability of resources in the production of two goods.

ECONOMICS 210 -- DEMAND AND SUPPLYCHAPTER 3 COMMENTS

In Chapter 3, the laws of demand and supply were discussed; individual demand and supply curves were illustrated and the derivation of market Supply and Demand curves was also discussed. In this chapter, the distinction between a change in demand (supply) and a change in quantity demanded (supplied) was made. Also given were the demand/supply shifters. The influence of time on demand or supply was discussed, distinguishing between the long and short run.

From there, the text covers the market equilibrium, transaction costs and emphasizes that in the short-run, supply and demand are largely independent of each other.

HOMEWORK COMMENTS

TEXT: p. 63: #5, 8

Question #5 dealt with exceptions to the law of demand, where, despite high prices, people will continue to purchase necessary goods for which there are no close substitutes. The market price that consumers face and pay, in this case, is more than the demand price.

Question 8 has students identify whether goods are substitutes, complements or joint products in production.

LECTURE COMMENTS

This was a good opportunity to review the ceteris paribus assumption, as, for example, when lecturing on the law of demand, I emphasized that

all factors other than price were held constant. I then noted that when any non-price determinant was allowed to vary, it resulted in shifts in demand--a result of changes in factors that were originally held constant.

ECONOMICS 210 -- EQUILIBRIUMCHAPTER 4 COMMENTS

This chapter deals more closely with the interaction of the forces of supply and demand, and the determination of market equilibrium price. The role of transaction costs in preventing instantaneous equilibration is reviewed. Here, also the effects on equilibrium price or quantity of shifts in either demand or supply or both, simultaneously, is investigated.

Also, the role of middlemen and speculators is reviewed.

Other forces interfering with the efficient operation of the market system are explored--e.g.--taxes, subsidies, regulation, price ceilings and floors.

HOMEWORK COMMENTS

TEXT: p.81: #2, 6

In Problem #2, dealt with the topic of transaction costs, and how, banks as middlemen, actually, help reduce transaction costs of obtaining loans.

EXTRA ASSIGNMENT

TEXT: p. 80: #1-11

To give the students practice in drawing/working with supply and demand curves, and to reinforce the ideas of shifts in demand and supply curves, I also had students complete problems 1-11, p. 80.

LECTURE COMMENTS

Transaction costs, introduced in chapter 3, were again reviewed. Effects of government regulation on market equilibrium were reviewed, with special emphasis on the effects of the imposition of price ceilings and floors. Also, the effects of an imposition of a tax were introduced.

ECONOMICS 210 -- ELASTICITYCHAPTER 20 COMMENTS

The concept of elasticity, which is applicable to any situation where quantifiable variables are systematically related, was introduced in this chapter. Definitions of and formulas for computing price elasticity of supply and demand, along with income elasticity of demand, cross-price elasticity of demand were given.

The relationship between price changes, elasticity and total revenue was detailed as was how income elasticities can be used to predict the changes in demand with a decrease or increase in income.

Elasticity and tax burdens was also illustrated--i.e.--who shares the burden with the incidence of a tax?

Lastly, the concept of marginalism is explored, in which the idea that every unit is the marginal unit.

HOMEWORK COMMENTS

TEXT: p. 422 -- Problems 1 & 2

Problem #1 deals with price-elasticity of demand and supply.

Problem #2 deals with price-elasticity of demand and income-elasticity of demand.

EXTRA PROBLEMS

TEXT: pp. 420-421 -- Problems 1 & 2

Problem #1 was assigned to compute various elasticities.

Problem #2 deals with the concepts of average and marginal units.

Many students tended to have difficulty with the computation of

elasticity. Part of the problem was due to the fact that many had not read the text, and another reason was attributable to poor math skills or math anxiety.

Lecture Comments

Having learned that many of the students experienced difficulty computing the various elasticities, extra time was devoted to reviewing their computation.

Also emphasized was the relationship between price elasticity of demand and total revenue.

ECONOMICS 210 -- FOUNDATION OF CONSUMER CHOICESCHAPTER 21 COMMENTS

Chapter 21 analyzes choices made by consumers and assumes that consumers try to maximize satisfaction. The text uses two approaches to the analysis of consumer behaviour and consumer choice:

- a) marginal utility/Price approach, and,
- b) Indifference curve/budget line approach.

Some of the concepts defined are utility, total and marginal utility, cardinal and ordinal utility, and the Law of Diminishing Marginal Returns is defined.

Also, indifference curves and budget lines are described and illustrated.

Both approaches yield the same point--the maximization of consumer satisfaction.

Also reviewed in this chapter were the income and substitution effects and their influence on forming a downward sloping demand curve.

HOMEWORK COMMENTS

TEXT: p. 438: #3, 8, 9

#3 deals with positive and normative economics.

#8 deals with rational ignorance, moral hazard and adverse selection.

#9 deals with individual choice and government regulation regarding consumption choices.

EXTRA PROBLEMSTEXT: p. 438: #1

This problem gives the student practice in computing marginal utility, the concept of diminishing marginal utility, and graphing total and marginal utilities.

LECTURE NOTES

I took extra time with this section, as I felt that it was necessary. I still found that I need more practice with drawing graphs--of using examples. This will come, with time.

ECONOMICS 210 -- FOUNDATIONS OF PRODUCERSCHAPTER 22 COMMENTS

This chapter deals with the foundations of producer choice. Production in the short run is detailed, defining and illustrating marginal and average physical products of labour, the total product curve and the law of diminishing returns. Short Run Production Costs--Fixed and variable costs, ATC, AFC, and AVC and Marginal cost are defined and illustrated. And then short run production and costs are related and illustrated.

Long-run production costs are explained, along with the principle of equal marginal productivities per dollar--illustrating the producer's equilibrium point. Economies and diseconomies of scale are also discussed.

HOMEWORK COMMENTS

TEXT: p. 466: #1, 4

Question #4 deals with the forces that affect the shape of the product curves and the cost curves. The advantages of specialization of labour initially cause output to rise at an increasing rate. And, as production increases, the advantages become exploited, so that output will begin to grow at a decreasing rate.

EXTRA PROBLEM

TEXT: pp. 464-465: #1, 2

Problem #1 gave practice in computing APPI and MPPI. Also, students had practice in plotting curves for the total, average and MPPI.

Problem #2 gave practice in completion of a total product schedule.

LECTURE COMMENTS

I seem to have taken too much time in covering this chapter again, but again, I felt that time was necessary.

I also need more practice in drawing and explaining diagrams. It would be easier, I have found, to have the diagrams readily available for the class, instead of trying to construct them in class, especially when time is limited.

ECONOMICS 210 -- THE COMPETITIVE IDEALCHAPTER 23 COMMENTS

Chapter 23 dealt with Perfect Competition in the short and long run. The purely competitive model, though an "idealized" one, is very important to study, as it is a model by which to judge or evaluate other market structures.

Short-run Competitive pricing and output; long-run adjustments in competitive industries; long-run industry supply curves are discussed in this chapter.

HOMEWORK COMMENTS

TEXT: p. 500 #2, 3, 4

Once again, these questions were to stimulate thought and discussion about concepts/issues discussed in the chapter and to relate them to the "real" world.

Students especially seemed to enjoy question # 4, as they could see how the concepts could be related to their actual environment/town.

EXTRA HOMEWORK PROBLEMS

TEXT: p. 499 #1

Problem 1 gave students practice in computing the profit maximizing quantity; maximum profit; shut-down point and long-run output, thus necessitating that students know and use the appropriate definitions. e.g.-- Profit maximizing rate of output in Short-run

Quantity where $P = MR = MC$

-- Maximum Profit = where $(TR - TC)$ is greatest

LECTURE COMMENTS

As this chapter began a new section on "The Structure of Product Markets", I began the lecture by discussing the three criteria used for classifying market structures (small group-large group; homogeneous product--differentiated products; and no barriers to entry/exit--barriers to entry/exit).

Then, using those criteria, I identified the main types of market structures--perfect competition, monopolistic competition; oligopoly; monopoly, and contestable market.

From there, began a discussion of perfect competition, the subject of chapter 23.

To reinforce learning, each day I tried to quickly summarize material covered in the previous day's lecture. However, I feel that I lost too much time by doing this, for the end of the quarter was quickly approaching. Even five to ten minutes was precious. Next time, if students have no questions, I'll just pick up from where I left off.

ECONOMICS 210 -- MONOPOLYCHAPTER 24 COMMENTS

This chapter dealt with monopoly; characterizing monopoly markets; monopoly pricing and output; monopoly power, and barriers to entry, whether they be artificial or natural. The contestable markets theory which emphasizes the importance of barriers to entry is also discussed.

The requirements for price discrimination and for profit maximization are detailed. Also discussed is nondiscriminating monopoly, the economic efficiency of which is then compared with competitive industries.

HOMEWORK COMMENTS

TEXT: p. 521: #3, 7

Question #3 deals with price discrimination, and calls for the student's judgement.

EXTRA PROBLEMS

TEXT: p. 520: #1

For this problem, students practice their graphing skills and become more familiar with the shape of cost curves.

Students also determine the profit-maximizing rate of output for:

- a) the non-discriminating monopolist, and
- b) the perfectly price discriminating monopolist,

and are thus able to contrast the two positions, and compute the differential between the two.

LECTURE COMMENTS

I began by reviewing the criteria of a monopolistic market, emphasizing the lack of close substitutes.

My graphing techniques still need polishing, much time was taken up in drawing and explaining illustrations, for again, overhead projectors were unavailable. It is easier if the illustrating could be done before-hand.

ECONOMICS 210 -- MONOPOLISTIC COMPETITION AND OLIGOPOLYCHAPTER 25 COMMENTS

This chapter dealt with two of the less extreme and more common types of market structures -- i.e.-- oligopoly and monopolistic competition, and compares and contrasts them with each other and also with the extremes--monopoly and perfect competition.

Product differentiation and the role of advertising is first discussed, followed by a survey of monopolistic competition. The higher costs and the relative inefficiency of monopolistic competition, (as compared to pure competition), due to higher advertising and other costs associated with product differentiation, is discussed.

Interdependence of firms and concentration ratios are discussed when Oligopoly is introduced. Causes of oligopoly--economies of scale; mergers; artificial barriers to entry--are listed. Two major pricing models--collusive and non-collusive--are treated, as is the kinked demand curve model. The use of limit pricing to deter entry of new firms into the market is also discussed, stressing that long-run benefits, (preservation of economic profits), outweigh the short-run profits. Requirements for the formation of cartels and their pricing policies are introduced, along with problems associated with them--cheating and instability.

HOMEWORK COMMENTS

TEXT: pp. 541-542: #1, 5, 8, 10

For problem #1, students had to identify whether an advertisement

relied on persuasive or informative arguments.

Problem #5 required that the student compare Hotelling's model of oligopoly, (firms move to the center of the markets, producing little product differentiation) and the model of monopolistic competition, (M.C. leads to too much artificial product differentiation).

EXTRA PROBLEMS

TEXT: p. 541: #1

This exercise gave students practice in computing concentration ratios.

Lecture comments

As usual, my lectures are too long, and too closely follow the text. This experience has been very beneficial, for I am learning how to improve my presentation.

ECONOMICS 210 -- ANTITRUST POLICYCHAPTER 26 COMMENTS

In an attempt to prevent monopolistic abuses in a market economy, antitrust laws have been enacted.

In this chapter, in order to determine whether monopoly power is significant in an industry, measures of monopoly power were first discussed (the Lerner Index of Monopoly Power and market concentration ratios).

Next, mergers and the three major merger movements that have occurred in the United States were discussed, along with the major Antitrust laws enacted as a result of these merger waves. Exemptions to these antitrust laws are also presented.

HOMEWORK SUMMARY

TEXT: pp. 559-560: #3, 5, 6, 8

Question #3 was a good example of relating the topics to student's interests. Being given a relevant example with which to work helps increase understanding and retention of material as well as a better understanding of events in the real world. Answers for both # 3 and #8 were evaluated based upon the quality of the student's arguments.

LECTURE COMMENTS

As the end of the quarter was practically upon us, highlights of this chapter were presented. Most students had little difficulty

with the material.

I did feel that I was too rushed toward the end; next time, because of this experience, I will be better able to determine exactly how and how much to present, thus ensuring that all topics are covered adequately.

ECONOMICS 210 -- INTERNATIONAL TRADECHAPTER 36 COMMENTS

International trade was explored in this chapter, explaining why nations trade through discussion of the Law of Comparative Advantage. Terms of trade and the gains from trade are detailed, along with the net gains resulting from specialization. Of particular interest today, with the growing protectionist fever, arguments against free trade are then discussed--with nationalism, retaliation, job destruction and balance of payments being the most relevant arguments being bandied about in the United States today. Tariffs and quotas are then discussed.

HOMEWORK COMMENTSTEXT: p. 769: Problem #2

Using the Heckscher-Ohlin theory of trade, students were to predict the pattern of trade between two countries--i.e.--which type of good a country will import/export, and who will benefit.

EXTRA PROBLEMTEXT: pp. 769-770: #3, 5

Questions #3 and #5 both require the students to apply what they have learned to real-life situations.

Hopefully, they have learned enough from this chapter to make decisions based on logic and reason, rather than emotion.

LECTURE COMMENTS

Again, highlights of this chapter were presented, because of lack of time. (We need a semester system to give adequate coverage!!!)

This chapter presented another good opportunity to relate topics covered to present situations, and stimulated good discussions.

ECONOMICS 210 -- CAPITALISM AND ITS ALTERNATIVESCHAPTER 38 COMMENTS

This chapter begins with an overview of capitalism and its strongest defenders, libertarians. Anarcho-syndicalism, which shares libertarianism's distaste for government, but is not as strong an advocate of unfettered capitalism is then discussed. Different types of socialism, including Marxism, are then presented. Alternative economic system--central planning, decentralized socialism, indicative planing and welfare states are then highlighted.

HOMEWORK COMMENTS

TEXT: p. 807: #1, 2, 3

Questions #1 and #2 involves student opinion, and evaluation of answers is based on the quality of the arguments for or against a certain position.

Question #3 involves an understanding of the libertarian position and application of their principles.

LECTURE NOTES

As we had run out of time, we were unable to cover the material presented in this chapter, in any depth.

ECONOMICS 210-02 -- TEST/QUIZ SUMMARY

Note: Quizzes were unannounced, but given at the end of a section to enable the student to see how much he actually knew. Tests were announced at least a week ahead of time and at least one class period was devoted to review of concepts, definitions and calculations.

Quiz 1

This was a 10 point quiz covering:

- 1) the effect on equilibrium price and quantity of shifts in demand/supply, and,
- 2) elasticity and total revenue.

It was important that students knew:

- 1) how an increase/decrease in supply/demand shifted the supply/demand curve(s) and affected equilibrium P & Q, and,
- 2a) how to compute the elasticity coefficient, and,
- 2b) understand what the coefficient meant and how a price change would effect total revenue.

Students generally did well on problem #1, but, many had difficulty with problem #2--both with computation of the elasticity coefficient and, then, with using this value to predict the change in total revenue when price changed.

I reviewed, again the formula, and how to use the elasticity coefficient to predict the change in TR, given a change in price.

TEST #1

This test covered chapter 1-4 and chapter 20.

The test was in two parts:

- 1) Objective Section : 50 questions total
Multiple choice and true/false questions.
These questions were chosen from the test-bank
for the text-book.
- 2) Short-Answer Section:
 - #1a) Computation of elasticity coefficient
 - #1b) determination of effect on total revenue
of price increase.
 - #2a) Computation of elasticity coefficient
 - #2b) determination of feasibility of the
imposition of sales tax on product.
 - #3) Illustration of price ceiling.

Again, some students had difficulty computing the elasticity coefficient. But, after performing their calculations, even if the figure was not correct, their interpretation of that figure was. I was surprised at many of the the illustrations of price ceiling. I had never thought of the potential confusion that the descriptors, "ceiling" and "floor" could cause--most drew the ceiling price above the equilibrium--interpreting the term "ceiling" as meaning above equilibrium. So, when reviewing the test, I noted this, and I now know what to point out in the future!!

QUIZ 2

This was a 10 point quiz covering:

- 1) Computation of costs: a) Total Costs (TC/TFC/TVC)
b) Average Costs (ATC/AFC/AVC)
c) Marginal Cost
- 2) Computation of APP and MPP.

As long as students remembered the definitions, they had little difficulty computing the cost figures.

TEST #2

This test covered Chapters 21-24.

The test was also in two parts:

- 1) Objective Section : 50 questions total
Multiple choice and true/false questions
The questions were again chosen from the test-bank for the textbook.
- 2) Short-Answer Section :
 - #1a) Computation of Total and Average Cost figures
 - #1b) Illustration/graphing of Cost curves
 - #2a) Computation of profit-maximizing output
under perfect competition

Once again, for the short answer section, as long as students remembered the definitions, they had no difficulty with computations.

FINAL EXAMINATION

This examination is comprehensive, covering material in chapters 1-4; 20-26 and 36. As we did not have time to cover chapter 38, material will not be included. The majority of the questions, however, will cover the new material--chapters 25, 26, and 36. This exam consists of 100 multiple-choice/true-false questions.

ECONOMICS 210 -- FINAL SUMMARY

This course was a requirement for almost all of the students enrolled, and because of this, initially, the course was overenrolled. However, as the quarter progressed, the number of students began to decline to approximately 80% of the original size. Generally, attendance was highest on the first two or three days of classes during the week, and tapered off toward the week's end.

Students were attentive, well-behaved and responsive when asked questions. There was a group of students attending and completing assignments regularly -- approximately 60%.

I did note and shall heed the comments in the student evaluations. One suggested that I cut down on the amount of notes given, a comment with which I agree. Having actually presented the material once, it will be easier in the future to condense the material, presenting the most important topics. Also, with additional readings, I can also present relevant material from outside sources--i.e.--other than the text in order to broaden the students' experience.

I appreciated the opportunity to have taught the course during Dr. Iwomi's absence and to have been able to assist him, upon his return when ultimate control and responsibility was returned to him. I benefitted greatly from the experience of preparing lecture notes and other materials; presenting the material; grading homework assignments and two of Dr. Iwomi's tests (not the final) and quizzes, and assisting students when necessary.

And, while I would have preferred to have constructed my own tests, as

this course was ultimately Dr. Iwomi's responsibility, he decided to use tests which he had constructed. Dr. Iwomi also bore the responsibility of final grade assignment.

There was a fairly normal grade distribution and reflected the amount of effort that students expended. Those who attended regularly, completed homework assignments, asked relevant questions and for assistance when they experienced difficulties, fared well. As expected, most students received a final grade of "C", due, in part, to the fact that the material was new to them, and presented somewhat of a challenge. Considering these factors, they did well.

ECONOMICS 210 EVALUATIONS

Grade Report--Ec 210-02

Listed below is a summary of the grades assigned for students enrolled in Economics 210-02 during the Winter Quarter, 1992.

Determinants of the grades assigned were a composite of the following factors:

- a) Test grades
- b) Quiz grades
- c) Attendance
- d) Homework
- e) Class participation

<u>Grade</u>	<u>Number</u>	<u>Percent</u>
A	7	15.5%
B	11	24.4%
C	18	40.0%
D	4	8.0%
F	5	11.1%

Total: 45 students receiving grades

ECON 210, Microeconomic Theory

STUDENT EVALUATION OF INSTRUCTOR AND INSTRUCTION SUMMARY

By

Elizabeth R. DaCosta

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WRIGHT STATE UNIVERSITY 1967

PROBLEM STATEMENT. Evaluate the STUDENT EVALUATION(S) of Econ 210, Microeconomics, Winter Quarter, 1992. This evaluation will consider possible data irregularities, and shall consider the nexus: (a) between the anticipated grade of the student and their evaluation of the course and instructor; (b) between the student for whom ECON 210 is a requirement (i.e., major course and core course) and his evaluation of the course and instructor; and (c) between the initial interest of the student (i.e., interest of subject) and their evaluation of the course and instructor. Making use of intersurvey agreement, student responses will be assessed for consistency.

DATA. Data were collected from the students of the class for the purpose of assessing instructor and instruction performance. Making use of an evaluation form designed for the purpose (see appendix), the variables examined were:

- S1_1: Course rating (overall)
- S1_2: Textbook rating (overall)
- S1_3: Instructor rating (overall)
- S2_1: Course Objectives
- S2_2: Agreement w/ Course Objectives
- S2_3: Grasp of Material (Instructor's)
- S2_4: Organization (Instructor's)
- S2_5: Availability (Instructor's)
- S2_6: Evaluation Methods
- S2_7: Lecture Value
- S2_8: Textbook Value
- S2_9: Recommend Course
- S2_10: Recommend Instructor
- S3_1: Major Course
- S3_2: Core Course
- S3_3: Interest of Subject
- S3_4: Grade Value
- S4: Grade (anticipated)

Inasmuch as the data were few in number and categorical, this evaluation will be descriptive.

Hypothesis testing will rely upon nonparametric measures (e.g., chi-square). **Because of the very few number of responses, any conclusions may not be transferable to other class situations and should be scrutinized carefully.**

To begin, let us consider the range of responses for the variables.

One first notes that the data is skewed left (i.e., toward 1, away from 5). This is exemplified by the mean value; all, but six, is less than or equal to 2. This is expected, since a value of "5" was

indicative of "Not applicable", and the surveyed students were asked to be thoughtful of their responses.

TABLE I. FREQUENCIES

URR	NO RESP	1	2	3	4	5	TOTAL	MEAN ¹
S1_1	1	4	13	5	2		25	2.208
S1_2	1	6	12	5	1		25	2.042
S1_3	1	7	8	7	2		25	2.167
S2_1		8	8	7	2		25	2.120
S2_2		7	12	5	1		25	2.000
S2_3		11	9	3	2		25	1.840
S2_4		12	5	6	1	1	25	1.960
S2_5		10	10	3		2	25	1.960
S2_6		6	16	2	1		25	1.920
S2_7		5	16	3	1		25	2.000
S2_8		8	11	5		1	25	2.000
S2_9		10	11	3	1		25	1.800
S2_10		8	11	4	2		25	2.000
S3_1	3	14	7		1		25	1.455
S3_2	11	5	4	1	1	3	25	2.500
S3_3	10	7	3	4	1		25	1.933
S3_4	11	4	4	2	2	2	25	2.571
S4	3	6	13	3			25	1.864

ANALYSIS: "GOOD" and "SATISFACTORY" are equated with values of 2 and 3, respectively. From Table I, one notes that the average ratings given to the course, textbook, and instructor are between "GOOD" and "SATISFACTORY". The course rating (S1_1) mean is 2.208; the textbook rating (S1_2) average is 2.042; and the instructor rating (S1_3) average is 2.167. Additionally, where "STRONGLY AGREE" and "AGREE" are equated with values of 1 and 2, respectively, one observes that the average for recommending the course (S2_9) and instructor (S2_10) are 1.800 and 2.000, respectively.

From an examination of the grade anticipated by the student and their rating for the course (overall), one sees that there is a positive relationship. (See Table II.) This is not surprising, since one would expect a student anticipating a "good" grade to have a "good" outlook about the course, instructor, and course materials. However, the anticipated grade did not appear to be significant when the student was rating the textbook and instructor.

TABLE II. INTERACTION BETWEEN ANTICIPATED GRADE AND OVERALL EVALUATION²

	χ^2	df	Prob
S1_1 by S4	16.335	12	.176
S1_2 by S4	11.699	12	.470
S1_3 by S4	12.552	12	.402

Considering the student's interest in the subject, there was no significant interaction between the rating of the course, textbook, or instructor and the student's interest.

TABLE III. INTERACTION BETWEEN SUBJECT INTEREST AND OVERALL EVALUATION²

	χ^2	df	Prob
S1_1 by S3_3	15.727	16	.472
S1_2 by S3_3	6.831	16	.976
S1_3 by S3_3	14.246	16	.580

Further, students who selected the class for a University general curriculum choice (see Table IV) and those who took the class within their major (see Table V) showed a particular bias when rating the course, the textbook, and the instructor, when grades are not a factor. However, considering that a bias exists within both groups, one might consider a similar bias acting upon the two groups.

TABLE IV. INTERACTION BETWEEN CORE SUBJECT AND OVERALL EVALUATION²

	χ^2	df	Prob
S1_1 by S3_2	39.328	20	.006
S1_2 by S3_2	26.045	20	.164
S1_3 by S3_2	26.169	20	.160

Notice (see Table V) that the interaction between the evaluation of the course, textbook, and instructor is significant among economic majors.

TABLE V. INTERACTION BETWEEN MAJOR SUBJECT AND OVERALL EVALUATION²

	χ^2	df	Prob
S1_1 by S3_1	21.477	12	.044
S1_2 by S3_1	31.369	12	.002
S1_3 by S3_1	19.717	12	.073

From Table VI, we see that the course was rated consistent with how clearly the objectives of the

course were outlined (the consistence between the presentation of material with that outlined for the course was significant, and, therefore, appears to be important in the rating process) and how the textbook and instructor were rated. Further, the instructor's rating appeared to dependent upon the ability to meet course objectives, grasp of the material, and organization; availability outside of class was insignificant. Expectedly, the instructor's rating translated into a similar recommendation for the instructor. Additionally, the textbook rating appears to be related of the usefulness of the lectures.

TABLE VI. INTERACTIONS OF OVERALL EVALUATIONS²

	χ^2	df	Prob
S1_1 by S2_1	15.865	12	.197
S1_1 by S2_2	20.281	12	.062
S1_1 by S1_3	54.524	16	.000
S1_1 by S1_2	42.362	16	.000
S1_2 by S2_7	48.359	12	.000
S1_2 by S2_8	37.082	12	.000
S1_3 by S2_2	21.259	12	.047
S1_3 by S2_3	17.226	12	.141
S1_3 by S2_4	32.850	16	.008
S1_3 by S2_5	12.336	12	.419
S1_3 by S2_10	39.590	12	.000
S4 by S2_6	13.301	9	.149

Surprisingly, students perceive a biased grading system. The lower the anticipated grade, the more they perceived an inequity in the evaluation methods (prob=0.149, but owing to the size of the sample, this conclusion is suspect).

CONCLUSIONS: Students rate the course, textbook, and instructor as "GOOD"; and these same students "AGREE" they would recommend Econ 210, Microeconomics, and its instructor to other students.

The consistence between the presentation of material with that outlined for the course is significant. The instructor's rating is dependent upon his ability to meet course objectives, his grasp of the material and organization; availability outside of class was insignificant. Additionally, the instructor's rating translated into a similar recommendation for the instructor, and the textbook rating appears to be positively related (i.e., the more useful the lectures, the better the textbook was rated) to the usefulness of the lectures.

FOOTNOTES

1. The mean was calculated from those surveys which had a response of "A-E".

PERCENT OF "NO RESPONSE"

VAR	PERCENT (%)
S1_1	4.000
S1_2	4.000
S1_3	4.000
S2_1	0.000
S2_2	0.000
S2_3	0.000
S2_4	0.000
S2_5	0.000
S2_6	0.000
S2_7	0.000
S2_8	0.000
S2_9	0.000
S2_10	0.000
S3_1	12.000
S3_2	44.000
S3_3	40.000
S3_4	44.000
S4	12.000

2. Because a chi-square was used, and more than one-fifth of the fitted cells were sparse (i.e., frequencies less than 5), the conclusion is suspect.

EC210/330/11/3/92

STUDENT EVALUATION OF INSTRUCTOR AND INSTRUCTION

This questionnaire gives you an opportunity to express anonymously your views of this course and the way it was taught. Specific directions are given for completing the questions in this survey.

SECTION 1.

Indicate the level to which you agree with the following statements as follows:

A = Excellent; B = Good; C = Satisfactory; D = Poor; or E = Not applicable.

- | | | | | | |
|--|---|---|---|---|---|
| 1. Overall, the course rates an... | A | B | C | D | E |
| 2. Overall, the textbook rates an... | A | B | C | D | E |
| 3. Overall, the instructor rates an... | A | B | C | D | E |

SECTION 2.

Indicate the level to which you agree with the following statements as follows:

A = Strongly agree; B = Agree; C = Disagree; D = Strongly disagree; or E = Not applicable.

- | | | | | | |
|---|---|---|---|---|---|
| 1. The objectives of the course were clearly communicated. | A | B | C | D | E |
| 2. The course was in general agreement with what was outlined as objectives. | A | B | C | D | E |
| 3. The instructor has a grasp of the material being presented. | A | B | C | D | E |
| 4. The instructor was well organized and used class time well. | A | B | C | D | E |
| 5. The instructor was available during specified office hours or appointment. | A | B | C | D | E |
| 6. The evaluation methods (exams, quizzes, and homework) are an appropriate measure of what I have learned. | A | B | C | D | E |
| 7. The daily lecture was a valuable study resource. | A | B | C | D | E |
| 8. The textbook was a valuable study tool. | A | B | C | D | E |
| 9. I would recommend this course to other students. | A | B | C | D | E |
| 10. I would recommend this instructor to other students. | A | B | C | D | E |

SECTION 3.

Indicate the most appropriate answer using the options (A-E) below each question.

- | | | | | | |
|--|---|---|---|---|---|
| 1. Which of the following was your reason for selecting this course? | | | | | |
| A. The course is required for my major. | A | B | C | D | E |
| B. The course is part of the University Core requirement. | A | B | C | D | E |
| C. The course was of interest to me. | A | B | C | D | E |
| D. I thought I could make a good grade. | A | B | C | D | E |

SECTION 4.

Indicate the most appropriate answer using the options (A-E) below each question.

- | | | | | | |
|--------------------------------------|---|---|---|---|---|
| 1. I expect to receive a grade of... | A | B | C | D | F |
|--------------------------------------|---|---|---|---|---|

ECONOMICS 210 - CHAPTER INFORMATION

ECON 210 -- CHAPTER 1 OUTLINEScarcity and Choice

- I. SCARCITY: THE ECONOMIC PROBLEM
 - a) Production and Resources
 - b) Human Wants and Rational Self-Interest

- II. FOREGONE ALTERNATIVES: OPPORTUNITY COSTS

- III. THE NATURE OF ECONOMIC ANALYSIS
 - a) Common Sense and Theory
 - b) Positive Versus Normative Economics
 - c) Macroeconomics and Microeconomics

- IV. ECONOMIC EFFICIENCY
 - a) Production Efficiency
 - b) Consumption Efficiency
 - c) Comparative Advantage

CHAPTER 1 HOMEWORK ASSIGNMENTECONOMICS, Byrnes & Stone, 4th Edition

p. 17: #3, 4, 11

3. Truly free goods are almost inconceivable. Some alternative is nearly always forgone. Why are none of the following goods "free"?
- A mother's love.
 - An all-expense-paid trip to Paris, won on a TV game show.
 - Free popcorn at a theater.
 - A free school lunch program for poor children.
 - Leftovers dug from a fancy restaurant's garbage by a bum.
4. Do you agree with the adage that "You can't get rich working for someone else"? Must successful entrepreneurs serve others to enrich themselves? Can wage earners achieve great wealth without investing? How might you test the correctness of your answers to these questions?
11. In what kinds of goods do Americans enjoy comparative advantages over production by foreigners? How is this related to the relative abundance of resources here in the United States compared to abroad?

CHAPTER 1 SUM--ECONOMICS 210

1. Economics --is concerned with choices and their consequences.
It has been described as the study of the ways that individuals and societies allocate their limited resources to satisfy relatively unlimited wants.
2. Scarcity --occurs because our relatively unlimited wants cannot be completely met from the limited resources available. A good is "scarce" if people cannot freely get all they want, so that the good commands a positive price.
3. Production --occurs when knowledge or technology is used to apply energy to materials to make them more valuable.
4. Resources (factors of production) :
 - a) Labour --Productive efforts made available by human beings. Payments for labour services are called wages .
 - b) Land --All natural resources such as land, minerals, water, air. Payments for land are called rents .
 - c) Capital --Basic improvements that increase the productive potential of other resources. Payments for the use of capital are called interest . Economists mean "physical capital" not "financial capital". Financial capital consists of paper claims to goods or resources.
 - d) Entrepreneurship --The organizing, innovating and risk-taking function that combines other factors to produce goods. Providers of this resource receive profits .
5. Opportunity Cost --the value of the next best opportunity

to a good or to some activity. The opportunity cost of the consumption choices you make are measured by the subjective values of alternatives you sacrifice.

6. Common Sense --theory that has been tested over a long period and found useful. In general, good theory accurately predicts how the real world operates.

Occam's Razor suggest that the simplest workable theories are the most useful or the "best."

7. Positive Economics --scientifically testable and involves value-free descriptions of economic relationships, dealing with "what is."

Normative Economics --involves value-judgements about economic relationships and addresses what "should be." Normative economic theory can neither be scientifically verified nor proven false.

8. Macroeconomics --concerned with aggregate (total levels of) economic phenomena, including Gross National Product, unemployment, inflation, etc.

9. Microeconomics --concentrates on individual decision-making, resource allocation, and how prices and output are determined.

10. Economic efficiency --occurs when a given amount of resources produces the most valuable combination of outputs possible.

Production (technical) efficiency --is obtained when a given output is produced at the lowest possible cost.

Another way of looking at efficiency is that it occurs when the opportunity cost of obtaining some specific amount of a good is

at its lowest.

Consumption efficiency --requires consumers to adjust their purchasing patterns to maximize their satisfactions from given budgets.

11. Comparative Advantage --The law of Comparative Advantage--
The idea that mutually beneficial trade can always take place.

¹ Ralph T. Burns, Gerald W. Stone, Economics (Glenview, 1989),
p. 17.

ECONOMICS 210--CHAPTER 2 OUTLINEResolving the Problem of ScarcityI. BASIC ECONOMIC QUESTIONS

- Ia) What?
- Ib) How?
- Ic) Who?
- Id) When?

II. PRODUCTION POSSIBILITIES

- IIa) Production-Possibilities Frontiers
- IIb) Diminishing Returns and Increasing Opportunity Costs
- IIc) Economic Growth
- IIId) Unemployment, Inflation, and National Defense

III. ALLOCATIVE MECHANISMS

- IIIa) The Market System
- IIIb) Brute Force
- IIIc) Queing
- IIId) Random Selection
- IIIe) Tradition
- IIIf) Government

IV. ECONOMIC SYSTEMS

IVa) Who decides?

IVb) Who owns?

V. FOUNDATIONS OF CAPITALISM

Va) Private Property Rights

Vb) Laissez-Faire Policies

CHAPTER 2 HOMEWORK ASSIGNMENTECONOMICS, Byrnes & Stone, 4th Edition

p. 42: #1, 3, 4, 6

1. Explain why a family with a fixed budget has a "purchasing possibilities" frontier that is a straight line. But a family's budget is seldom independent of the activities of family members. Suppose that different family members can work for different hourly incomes, and that they differ in their ability to do tasks for the family (e.g., cooking, cleaning, gardening, painting, household repairs). Discuss whether production and the generation of income within the family is characterized by a family production-possibilities frontier that is straight or concave from below.
3. One way to illustrate that an economic arrangement is inefficient is to show how, through some rearrangement, some people could gain with no one else losing. Use this approach to evaluate the following situations:
 - a. *Brute force.* The Soviet Union and the United States devote valuable resources to national defense because each side fears attack by the other.
 - b. *Queuing.* A \$100-per-hour lawyer is at the end of a two-hour waiting line to renew a driver's license, and a vacationing college student is at the front of the line.
 - c. *Random selection.* A rock star who makes \$10 million employed 18-year-old high-school dropout who would be willing to join the Army for a \$9,000 salary is not drafted and does not enlist because the pay is only \$7,000 annually.
 - d. *Tradition.* Quota systems once limited the numbers of women, Jews, blacks, and Hispanic Americans admitted to medical school.
 - e. *Government.* Procurement procedures sometimes require that imported goods be used to fulfill government contracts only if American-made goods are not available.
4. Use the concept of the opportunity cost of time to explain why our welfare system involves long queues for those who seek food stamps, housing allowances, or aid for dependent children.
6. Evaluate the following argument: Grades and athletic medals should be allocated through a market system. The buyers would be the people who value such awards the most, so this would be more efficient than awarding according to merit. For example, if a C student could buy an A from a more diligent student, both could gain from the exchange without harming anyone else in the process.

CHAPTER 2 SUMMARY -- RESOLVING THE PROBLEM OF SCARCITY

1. Four basic economic questions each society faces:
 - 1) What goods to produce
 - 2) How resources will be used
 - 3) For whom to produce
 - 4) When production and consumption will occur
2. Production Possibilities Frontier (PPF) --shows the maximum combinations of goods that a society can produce.
--PPF curve assumes:
 - a) resources are fixed,
 - b) technology is constant, and
 - c) all scarce resources are fully and efficiently used.
3. Opportunity costs are the values of outputs if resources were switched to their best alternative uses.
Opportunity costs are not constant because resources are not equally suited for all types of production.
Increasing a particular form of production leads to diminishing returns and increasing opportunity costs, so the production-possibilities curve is concave from its origin.
4. Economic growth occurs when technology advances or when the amounts of resources available for production increase.
Economic growth is illustrated by an outward shift of the production-possibilities curve; more of all goods can be produced.

5. When technology advances for one good in a production-possibilities model, most of the curve will shift outward and to the right; fewer resources are needed to produce that goods and are available for producing other goods.
6. The choices a society makes between consumption and investment goods affects its future production-possibilities curve. Lower saving and investment restricts economic growth and PPF expansion.
7. Alternative allocative mechanisms include:
 - a) market system
 - b) brute force
 - c) queuing
 - d) random selection
 - e) tradition, and,
 - f) government
8. Many different economic systems are used in attempts to resolve the scarcity problem. They can be classified who makes decisions (centralized or decentralized) and who owns the resources (public or private).
9. Property is privately owned under pure capitalism and government follows laissez-faire (hands off) policies. Decisions, therefore are decentralized and rely on individual choices in a market system.

Under socialism the government acts as a trustee over the nonhuman resources jointly owned by all citizens, with many socialist economies also relying heavily on centralized production and distribution decisions.

² Ibid ., p.41

ECONOMICS 210 -- CHAPTER 3 -- DEMAND AND SUPPLYI. MARKETS AND PRICESII. DEMAND

- a) Substitution and the Law of Demand
- b) The Demand Curve
- c) Market Demand curves
- d) Other Influences on Demand
- e) Changes in Demand
- f) Changes in Quantity Demanded Vs. Changes in Demand

III. SUPPLY

- a) The Law of Supply
- b) Other Influences on Supply
- c) Changes in Supply
- d) Changes in Quantity Supplied Vs. Changes in Supply

IV. DEMANDS, SUPPLIES, AND TIMEV. MARKET EQUILIBRIUMVI. TRANSACTION COSTSVII. SUPPLIES AND DEMANDS ARE INDEPENDENT

CHAPTER 3 HOMEWORK ASSIGNMENTECONOMICS, Byrnes & Stone, 4th Edition

p. 68: #5, 8

5. The law of demand asserts that the quantity of a good demanded will fall if the price rises because people will find substitute goods or will alter their behavior so that they do with less. Does the law of demand hold for people who rely on certain goods to continue living, such as:

(a) insulin for a diabetic? (b) kidney dialysis? (c) heart transplants?

If not, what would happen to most of these sick people if insulin rose to \$800 per dose, kidney dialysis to \$10,000 per session, and a heart transplant to

\$1,000,000? Can you think of substitutions that these consumers could make?

8. Which of the following sets of goods are substitutes in production, and which are either joint products or complementary in production?
- wool and cotton
 - oranges and honey
 - lumber and paper
 - eggs and hashbrowns
 - footballs and ham

CHAPTER 3 SUMMARY-- DEMAND AND SUPPLY

1. Market - a social institution enabling buyers and sellers to strike bargains and transact business.
Absolute (monetary) prices -- much less important to consumer or business decisions than relative prices .
2. Law of Demand -- people buy less of a good per period at high prices than at low prices.
Demand curves -- negatively sloped reflecting the inverse relationship between price and quantity
-- show the quantities demanded at various prices for a good
Change in Quantity Demanded -- movement along a demand curve, reflecting change in market prices.
3. Consumers buy more of a product per period only at lower prices because consuming the additional units ultimately does not yield as much satisfaction as consuming previous units.
Diminishing Marginal Utility causes demand prices to fall as consumption rises.
Income Effect - a lower price for one product means that the purchasing power of a given income rises.
Substitution Effect -- a cheaper good will be substituted for a more expensive one
-- underpinning of the law of demand
4. Shift/Change in Demand -- movement of Demand curve
Increase in Demand -- shift to right of Demand curve

Decrease in Demand -- shift to left of Demand curve

Demand Shifters : -- Changes in tastes & preferences

-- Changes in income and distribution

-- Changes in prices of related goods

-- Changes in expectations about future prices and availability of income

-- Changes in numbers and ages of buyers

-- Changes in government taxes/subsidies

5. Law of Supply -- higher prices cause sellers to make more of a good available per period

Supply curve illustrates the positive relationship between price and quantity sold (positive slope).

Supply curves generally have positive slope because:

- a) diminishing returns cause opportunity costs to increase
- b) to expand output, firms must bid resources away from competing producers that increase costs
- c) profit incentives are greater at higher prices.

Change in Quantity Supplied reflects a change in price and is illustrated by movement along the Supply curve.

6. Change/Shift in Supply -- shift of Supply curve

Increase in Supply -- S curve shifts right

-- more of a good is supplied at each price

Decrease in Supply -- S curve shifts left

--less of a good is supplied at each price

Supply Shifters -- Changes in number of sellers

Changes in technology
 Changes in resource costs
 Changes in prices of other goods
 Changes in producer expectations
 Changes in specific taxes & subsidies

Change in Quantity Supplied is not the same as a change in supply

7. When markets operate without government interference, prices tend to move toward market equilibrium where quantity supplied = quantity demanded.

Market equilibrium - Demand price = Supply price

8. Shortages -- occur when Market price is below equilibrium price
 -- causes pressure for increase in price as an
 incentive for increase in production

Surpluses -- occur when Market price is above equilibrium price
 -- causes pressure for reduction in price

9. Transaction Costs exist because information and mobility are costly, allowing the price of a good to vary between markets.

10. Supply and demand are largely independent in the Short Run.

³
Ibid ., p. 62.

ECONOMICS 210 -- CHAPTER 4-- MARKETS AND EQUILIBRIUM

- I. THE SEARCH FOR EQUILIBRIUM
 - a) Changes in Supply
 - b) Changes in Demand
 - c) Shifts in Supply and Demand

- II. MIDDLEMEN AND SPECULATORS
 - a) Middlemen
 - b) Speculators

- III. MARKETS AND PUBLIC POLICY
 - a) Taxes and Subsidies
 - b) Price Controls
 - c) Heroin Addiction
 - d) The Problem of Adoption

- IV. THE MARKET IN OPERATION

CHAPTER 4 HOMEWORK ASSIGNMENTECONOMICS, Byrnes & Stone, 4th Edition

p. 81: #2, 6

Extra Assignment

p. 80: #1-11

2. Financial institutions such as banks act as middlemen. They lend their depositors' savings to ultimate borrowers, charging higher interest to borrowers than they pay to depositors, who are the ultimate providers of loans. How does this reduce the transaction costs incurred in making private savings available to borrowers?
 6. In 1979, President Carter imposed quotas limiting oil imports, using the argument that "... we import inflation every time we import another barrel of expensive oil into this country." Do import quotas (on such things as oil, clothes, or cars) drive prices up, or will prices be held down as President Carter suggested?
- Draw supply and demand graphs for the relevant markets to show the impact of the following changes on prices and quantities. Be as explicit as possible about the market adjustment mechanisms.
1. There is a major technological breakthrough in producing natural gas from coal. What happens in the market for natural gas? The market for coal?
 2. What happens to the world market for coffee if coffee blight destroys three-quarters of the crop in Brazil? The market for tea?
 3. Gasoline prices soar. What happens in the markets for big cars? Bicycles? Tune-up shops? Rapid-transit systems?
 4. The economy goes sour. What happens to the market for economists?
 5. Tomorrow afternoon AT&T announces that oil has been discovered under every telephone pole. What happens to the market for AT&T stock? How rapidly would this occur? Do you think you could get rich buying AT&T stock the next day? (The answer is NO!) Who would get rich from this discovery?
 6. A legal maximum price for denim jeans is set at \$1 per pair. What happens to quantity? To quality? To opportunity cost? Is the government doing denim-jean wearers any favors?
 7. A "miracle seed" for corn is developed. Analyze the markets for corn and wheat.
 8. The birthrate suddenly increases enormously. What would happen in the market for baby furniture? The market for babysitters? The market for movies? Are the answers to these questions different in the short run and long run? How?
 9. In 1989, the government announces a major renewal of space exploration. In 1997, this program is discontinued. What will happen to the market for aeronautical engineers in 1989-90? Between 1990 and 1997? In 1997-98?
 10. There is a radical overhaul and simplification of the income tax system. What happens to the market for accountants? Lawyers? Erasers?
 11. The minimum legal wage is raised from \$3.35 per hour to \$5.00 per hour. What happens in labor markets for teenagers and other unskilled workers?

CHAPTER 4 SUMMARY -- MARKETS AND EQUILIBRIUM

1. Increases in supplies or decreases in demands tend to reduce prices.
Decreases in supplies or increases in demands tend to increase prices.
Increases in either supplies or demands tend to decrease quantities.
If both supply and demand shift, the effects on P & Q may be either reinforcing or at least partially offsetting.
2. Prices may not move quickly to their equilibrium values, and can swing up and down as they slowly approach the intersections of demands and supplies.
3. Middlemen prosper only if they reduce the transaction costs associated with getting goods from the ultimate producers to the ultimate consumers.
Speculators aid in movements towards equilibrium because they try to buy when prices are below equilibrium (increasing demand) and sell when prices are above equilibrium (increasing supply).
This dampens price swings and reduces the costs and risks to others of doing business.
4. Arbitrage involves buying in a market where the price is low and selling in a market where the price is higher. If this price spread is greater than the transaction costs, arbitrage is risklessly profitable. Competition for opportunities to arbitrage dampens profit opportunities and facilitates efficiency

by ensuring that price spreads between markets are minimal.

5. Government can set monetary prices at values other than equilibrium price.

Price Floor - government sets a minimum legal price
- creates shortages

Price Ceiling -government sets a maximum legal price
-creates surpluses

Price ceilings and price floors are inefficient.

6. Taxes and subsidies drive wedges into markets so that buyers and sellers have different perceptions about supplies and demands.

The slope of supplies and demands determine the proportions of tax burdens borne by buyers and sellers.

⁴ Ibid ., p. 80.

ECONOMICS 210 -- CHAPTER 20 -- ELASTICITY AND MARGINALISM

I. ELASTICITY

- a) The Price-Elasticity of Demand
- b) Other Elasticities

II. ELASTICITIES AND TAX BURDENS

- a) Tax Incidence
- b) Inelastic Supply

III. TOTALS, AVERAGES, AND MARGINALS

- a) Geometry and Marginal Units
- b) The Law of Equal Marginal Advantage

CHAPTER 20 HOMEWORK ASSIGNMENTECONOMICS. Byrnes & Stone, 4th Edition

p. 422: #1, 2

Extra Assignment

pp. 420-421: #1, 2

1. Some sports fans support the home team regardless of how well the team does; others only buy tickets if the team is a winner. Demand grows as a team's record improves. Would you expect the price-elasticity of demand to rise or fall as a result of a winning season? That is, would you expect season ticket prices to rise more than proportionally relative to other tickets as a team's record improved, or less than proportionally? Is the elasticity of supply of tickets to sporting events zero, or is it positive over the long run? Why?
 2. Revenues from oil exported by members of the Organization of Petroleum Exporting Countries (OPEC) rose each year until 1981 after the price of oil began to rise in the early 1970s. What does this suggest about the short run price-elasticity of the international demand for oil? Even though oil prices rose, worldwide consumption of oil also rose. What does this suggest about the income-elasticity of the demand for oil?
1. Compute the elasticities in the following situations.
 - a. The Jukes family buys 360 lollipops annually at a price of \$0.20 each but would consume 480 per year if the price dropped to \$0.16. Their price elasticity of demand is _____.
 - b. The U.S. Air Force purchased 170 ashtrays for their latest jets when the price was \$875 each, but ordered only 130 when the defense contractor raised the price to \$1,125. The Air Force's price-elasticity of demand for ashtrays is _____.
 - c. If American drivers burned 185 million gallons of gasoline on average when the price was \$1.15 per gallon, but cut back to 155 million gallons weekly when the pump price rose to \$1.35 per gallon, the price-elasticity of the market demand for gasoline equals _____.
 - d. If a \$5.98 sale on regular \$8.99 cassettes raises a store's sales from 600 to 6,000 per week, the price-elasticity of the demand faced by the store is roughly _____.
 - e. If a boom raises national income from \$4.0 trillion to \$4.4 trillion and macadamia nut sales jump from 3 to 5 million pounds annually, the income-elasticity of demand for the nuts is _____.
 - f. If each 1 percent hike in the price of mousetraps causes a 2 percent decline in the quantity of cheese sold, the price cross-elasticity of demand for these complementary goods is roughly _____.
 - g. When the Kallikak family can sell Shar-Pei puppies for \$1,800 each, they offer 60 to the market annually, but when the price falls to \$600 apiece, they are willing to sell only 12 each year. The price-elasticity of their supply is _____.
 - h. When the temperature drops from 34°F to 18°F, average attendance at Cincinnati Bengals football games dips from 56,000 fans down to 28,000 die-hards. During cold spells, the temperature elasticity of the demand for Bengals' tickets is _____.
 - i. When 200,000 gallons of water are applied per acre, 4 tons of jelly beans are harvested from each acre annually, but cutting back to 140,000 gallons causes the crop per acre to fall to 2 tons annually. The water elasticity of jelly bean production is _____.
 - j. If doubling your consumption of pasta to 6 pounds per week causes you to blossom from a svelte 125 pounds to a rotund 175 pounds, your pasta elasticity of blubber is _____.

CHAPTER 20 HOMEWORK ASSIGNMENT CONTINUED

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Extra Assignment

p. 420-21: #2 continued

2. The concepts of average and marginal occur in many areas other than economics. Describe the effects on averages of the following marginal events:

- a. What happens to your average for this class if your score on the next (marginal) test is above your current average? Suppose that you do not do quite as well on the final exam as on the next test. How is it possible for your average to rise even though the marginal test score is falling?
- b. Manute Bol, a 7' 7" center for the Golden State Warriors basketball team, walks into your class. What happens to the average height of people in your classroom? The average income?

Fill in Table 4 to show what happens to the average temperature in Denver in February if, as the month progresses, the following high temperatures are recorded. (Use a hand calculator.)

Is there a consistent relationship between changes in the marginal (observed) temperature for sequential days and the average? (NO!) What is the simple relation between the marginal (observed) temperature and the average for the month?

- d. Explain how an increase in the rate of inflation might still reduce the average rate of inflation over a decade.
- e. Can you specify a simple mathematical law governing the relations between marginals and averages, and identify five situations outside of economics where this law is important?

High Temperatures for the Month of February in Denver

Date	Temperature	Average	Date	Temperature	Average
Feb. 1	16°	16	Feb. 15	31°	34
2	18°	17	16	16°	22.5
3	23°	19	17	15°	23
4	23°	20	18	23°	24
5	20°	20	19	42°	24
6	26°	21	20	34°	24
7	29°	22	21	14°	24
8	37°	23	22	24°	24
9	24°	23	23	24°	24
10	14°	23	24	48°	24
11	12°	22	25	50°	24
12	22°	22	26	39°	24
13	35°	23	27	40°	24
14	30°	23.5	28	55°	24

CHAPTER 20 SUMMARY -- ELASTICITY AND MARGINALISM

1. Price elasticity of Demand is a measure of the responsiveness of the amount demanded to small price changes and is defined as:

$$E_p = \text{Relative change in } Q \text{ demanded} / \text{Relative change in price}$$
2. Problems result when calculating elasticity if initial prices and quantities are used as bases. Therefore, midpoint bases are used. The price elasticity of demand is negative, but for convenience, absolute values are used to avoid the negative sign.

$$E_p = \frac{Q_n - Q_o}{(Q_n + Q_o)/2} \bigg/ \frac{P_n - P_o}{(P_n + P_o)/2}$$

3. Inelastic demand -- $E_p < 1$
 --demand is relatively unresponsive to changes in price

Elastic demand -- $E_p > 1$
 -- demand is very responsive to price changes

Unitary elasticity -- $E_p = 1$
 -- a 1% change in price leads to a 1% change in quantity demanded

Elasticity, price changes, and total revenues

If demand is inelastic (elastic) and price increases (falls), total revenue will rise.

If demand is elastic (inelastic) and price rises (falls), total revenue will fall.

If demand is unitarily elastic, total revenue will be unaffected by total price.

5. Along any negatively sloped linear demand curve, parts of the curve will be elastic, unitarily elastic and inelastic. The price elasticity of demand rises as price rises.
6. Income elasticity of demand is the proportional change in the amount of a good demanded divided by a given proportionate change in income.

Normal goods have income-elasticities above zero, while

Inferior goods have negative income-elasticities.

7. Cross-elasticity of demand measures the responsiveness of the quantity demanded of one good to price changes in a related good. That is, price cross-elasticity is the proportional change of Good X divided by a given proportional change in the price of Good Y.

If the cross-elasticity of demand is positive (negative), the goods are substitutes (complements).

8. The price elasticity of supply measures the responsiveness of suppliers to changes in prices, and is defined to parallel that for the price-elasticity of demand: the proportional change in the amount supplied divided by a given proportional change in price. The price-elasticity of supply is typically positive, reflecting the positive slope of the supply curve.
9. The individual who actually loses purchasing power because of a tax is said to bear the tax's economic incidence (tax burden).

This may be quite different from the individual who is legally responsible for the tax, who bears its legal incidence. When these individuals differ, the tax has been shifted.

A forward-shifted tax is shifted to consumers.

A backward-shifted tax is shifted to producers.

10. If demand is perfectly inelastic or supply is perfectly elastic, a tax will be completely forward-shifted. If supply is perfectly inelastic or demand is perfectly elastic, the tax will be completely backward-shifted.
11. Incremental or marginal changes direct rational decision making. If a marginal unit of something is positive (negative), its total will rise (fall). If the marginal unit is zero, the total is unaffected. If the marginal exceeds (is less than) an average, the average rises (falls). The average is unchanged if $\text{marginal} = \text{average}$.
12. The Law of Equal Marginal Advantage dictates that similar resources be used in equally valuable ways to achieve efficiency.

⁵ Ibid ., pp. 419-420

ECONOMICS 210 -- CHAPTER 21 -- THE FOUNDATIONS OF CONSUMER CHOICE

- I. GOODS AND BADS
- II. EFFECTS OF PRICE CHANGES
 - a) Substitution Effects
 - b) Income Effects
- III. UTILITY
 - a) Marginal Utility
 - b) The Law of Diminishing Marginal Utility
- IV. CONSUMER EQUILIBRIUM AND DEMAND
 - a) Maximizing Utility
 - b) Balancing Marginal Utilities
- V. CONSUMER SURPLUS
- VI. THE PROBLEM OF RATIONAL CHOICE
 - a) Uncertainty and Imperfect Information
 - b) Bewildering Arrays of Choices
 - c) Moral Hazard
 - d) Adverse Selection
 - e) Caveat Emptor, Caveat Venditor, and Government Edict

CHAPTER 21 HOMEWORK ASSIGNMENT

ECONOMICS, Byrnes & Stone, 4th Edition

p. 438: #3, 8, 9

Extra Assignment

pp. 438: #1

- 3.) What are your thoughts on the following examples of ethical dilemmas for a utilitarian approach?
- A hospital has just enough medicine to cure ten 20-year-old college students or one 70-year-old derelict. Failure to administer the medicine to a patient will result in the patient's immediate death. Who should get the medicine? Would your answer change if the 70-year-old owned the medicine?
 - Allowing a corporation to build a shopping center will create traffic congestion and reduce property values in a middle-class suburb. Should the shopping mall be built? Would your answer change if you knew that the corporation would donate all profit to build houses for homeless poor people?
 - A convicted murderer is scheduled for execution on Friday. She is the only inmate in a jail scheduled for demolition next month. An enormous fire breaks out. Should \$100,000 of taxpayer's money be spent to rescue this prisoner?
1. Table 1 illustrates Mabel's total utilities from apple pies and detective novels.
- Fill in the columns with Mabel's marginal utilities from these goods.
 - Does Mabel's response to both goods obey the law of diminishing marginal utility? Why or why not?
 - Plot Mabel's total and marginal utilities from both goods on a separate sheet of graph paper.
 - Suppose Mabel has \$36.00 to spend on apple pies and detective novels; each pie is \$6.00 and each novel is \$3.00. How much of each will Mabel purchase in equilibrium?
 - Suppose the prices of pies and novels both drop to \$1 because of a bumper crop of green apples and the advent of a cheap printing process, while at the same time, Mabel's budget shrinks to \$10. How much of both goods will she purchase in equilibrium?
8. Which of the following problems are consequences of simple rational ignorance, and which arise from moral hazard or adverse selection?
- Your new car turns out to be a lemon.
 - You get an A in a course by turning in a plagiarized term paper.
 - Balmy weather ruins your ski vacation.
 - After saving your money for years, your spouse dies. You then marry a murderous fortune hunter and change your will so that your new spouse will inherit your fortune.
 - You were laid off because you goofed around on the job after you worked long enough to become eligible for unemployment compensation.
 - You pay a brilliant friend \$100 to write a term paper, and your former friend does a sloppy job that causes you to fail a course.
 - Soon after your silver anniversary, you become embroiled in a nasty divorce because of irreconcilable differences.
 - A sluggish housing market keeps you from selling, so you hire an arsonist and "sell" your house to the insurance company.
9. What are some attributes that distinguish goods whose regulation we can leave to the marketplace from those for which government regulation of consumer purchases seems appropriate? What criteria might be appropriate to differentiate between people who should be allowed to make their own choices from people who "need to be looked after"? Society does allow some people to make some choices that are denied others. Can you name some instances?

CHAPTER 21 HOMEWORK ASSIGNMENT CONTINUEDECONOMICS, Byrnes & Stone, 4th EditionExtra Assignment

p. 483: #1 continued

TABLE 1 *Mabel's Utilities from Pies and Novels*

Apple Pies	Total Utility	Marginal Utility	Detective Novels	Total Utility	Marginal Utility
0	0	—	0	0	—
1	200	—	1	250	—
2	290	—	2	295	—
3	370	—	3	335	—
4	440	—	4	370	—
5	500	—	5	400	—
6	550	—	6	425	—
7	590	—	7	445	—
8	620	—	8	460	—
9	640	—	9	470	—
10	650	—	10	475	—

CHAPTER 21 SUMMARY

1. Substitution Effects are the changes in consumer purchasing patterns that emerge if relative prices change, artificially assuming that the purchasing power of income is constant.
2. Income Effects are changes in buying patterns that occur solely because the purchasing power of one's income changes when the prices of individual goods rise or fall.
3. Utilitarianism proposes that the best society is the one that provides the greatest happiness for the greatest number of people.
4. Marginal Utility is the extra satisfaction gained from consuming a bit more of a good.
5. Law of Diminishing Marginal Utility states that the marginal utility of any good eventually declines as the amount consumed increases. Measured in dollars, the declining portion of a marginal utility curve translates into a demand curve.
6. Principle of Equal Marginal Utilities Per Dollar == $MU/P = MU/P$
Maximum consumer satisfaction (consumer equilibrium) requires that the last cent spent on any good yields the same gain in satisfaction as the last cent spent on any other good-- $MU/P_a = MU/P_b = MU/P_z$.
7. Consumer surplus is the area above the price line and below the demand curve. It is a consumer's gain from buying at a uniform price instead of paying prices equal to the marginal utility of each unit.
8. Paradox of Value --addressed why absolute necessities such as water are valued (priced) so cheaply, while frivolities like diamonds are

highly valued and command outrageous prices. Paradox arises from difficulties in distinguishing between total utility and marginal utility.

9. We are seldom certain about the attributes of any unit of a good. Information is costly and its marginal benefits may be trivial. Therefore, decisions are based on less than full information.

We are Rationally Ignorant because we pursue information only as long as its expected benefit exceeds its expected cost.

10. Moral Hazard occurs when a contract creates an incentive for opportunistic behaviour that raises the costs or lowers the benefits to the other party.

11. Adverse Selection occurs when a party to a contract has been deceived about the qualities it expects to receive from a transaction.

Rational Ignorance, moral hazard and adverse selection are all reasons why our effective consumer demands may not maximize our satisfaction.

12. There is an increasing tendency towards government edict as a means of overcoming transaction costs or solving the problems of rational ignorance and uncertainty.

13. Caveat emptor --let the buyer beware

-- ancient doctrine that buyers are the best judges of whether or not they receive full value and so should bear the consequences of their own decisions.

14. Caveat venditor --let the seller beware

-- another doctrine with a long history, reflected in the prohibitions against fraud and in imposing on sellers legal liability for damages if unknown dangers lurk within a product.

15. Society, increasingly, makes buyers responsible for the safety and reliability of their products which are passed onto the consumer as higher prices--we are forced to buy "insurance policies" on some goods purchased.

⁶ Ibid ., p. 437.

ECONOMICS 210 -- CHAPTER 22 -- FOUNDATIONS OF PRODUCER DECISION MAKINGI. ECONOMIC COSTS OF PRODUCTION

- a) Explicit and Implicit Costs
- b) Normal Profits as Production costs

II. PRODUCTION

- a) Inputs and Outputs
- b) The Short Run and the Long Run
- c) Production in the Short Run

III. SHORT-RUN PRODUCTION COSTS

- a) Fixed Costs
- b) Variable Costs
- c) Average Costs
- d) Marginal Costs
- e) Relating Costs to Production

IV. COSTS IN THE LONG RUN

- a) Least Cost Production
- b) Economies and Diseconomies of Scale
- c) Measuring Long-Run Average Costs
- d) Technological Change

CHAPTER 22 HOMEWORK ASSIGNMENT

ECONOMICS, Byrnes & Stone, 4th Edition

p. 466: #1, 4

Extra Assignment

pp. 464-465: #1, 2

1. Suppose that you offered to buy pizza and cold drinks to bribe your friends to help you move into a new apartment and were deluged with offers of help. What problems would you encounter if too few actually showed up? How would this affect your "average cost" per box or stick of furniture moved? What are some possible "fixed factors" that would decrease the efficiency of your move and drive up its cost if too many people volunteered to help? How would this raise the cost of your move? How many big strong friends do you think would be the ideal number to accomplish this task?
 4. Describe the forces that, as more and more labor is hired, cause output to rise at an increasing rate and then at a decreasing rate and that may ultimately cause output to fall as more labor is employed. How do these forces affect marginal and average costs in a similarly systematic fashion? Why? Can you think of any production processes that would not operate in accord with these general principles? What are they?
1. Your microcomputer firm's labor requirements for various levels of output are described in Table 6.
 - a. Fill in the columns for APP_L and MPP_L .
 - b. Use graph paper to plot curves for the total, average, and marginal physical products of labor.
 - c. Assume that wages are the only variable costs, and that each employee is paid \$10,000 annually. Fill in this table for average variable costs (AVC) for each level of labor. (Note: average variable costs are measured per unit of output.) Now compute marginal costs for each level of labor employed.
 - d. What happens to average and marginal costs as production is expanded?

TABLE 6 Labor Requirements for a Microcomputer Firm

Labor	Output	APP_L	MPP_L	AVC	MC
0	0	—	—	—	—
1	30	—	—	—	—
2	70	—	—	—	—
3	120	—	—	—	—
4	200	—	—	—	—
5	260	—	—	—	—
6	300	—	—	—	—
7	335	—	—	—	—
8	350	—	—	—	—

2. A weekly total product schedule for your car wash is listed in Table 7. Plant and overhead (fixed) costs are \$2,000 and the weekly wage is \$300.
 - a. Complete the table.
 - b. Does this table describe the short-run or long-run? Why?
 - c. If fixed costs rise to \$4,000 per week, does the output where ATC is the lowest rise or fall?

TABLE 7 Car Wash Total Product Schedule

Labor	Output	TVC	TC	AFC	AVC	ATC	MC
0	0	—	—	—	—	—	—
1	82	—	—	—	—	—	—
2	230	—	—	—	—	—	—
3	450	—	—	—	—	—	—
4	700	—	—	—	—	—	—
5	900	—	—	—	—	—	—
6	1,050	—	—	—	—	—	—
7	1,130	—	—	—	—	—	—
8	1,180	—	—	—	—	—	—
9	1,185	—	—	—	—	—	—

CHAPTER 22 SUMMARY--FOUNDATIONS OF PRODUCER DECISION MAKING

1. Economic costs include both explicit and implicit costs.

Explicit costs involve outlays of money for goods or resources.
e.g.--rent, electricity, wage costs.

Implicit costs are the opportunity costs of resources provided by a firm's owner.
e.g.--values of owner's labour and capital
2. Bookkeeping rarely considers implicit costs, while both implicit and explicit costs are included in economic costs .
Consequently, accounting profits often overstate the economic profitability of an enterprise because the opportunity costs of owner-provided resources are ignored.
3. Production function expresses a relationship between inputs and output. Production transforms goods to make them more valuable in form, place, time or possession.
Total Physical Product Curve shows how output is affected as the amount of only one input changes.
4. Short-run is a period in which at least one resource and one cost are fixed.
Long-run a period in which all resources can be varied, but technology is assumed constant.
Therefore, periods are defined by the nature of the adjustment process , not by time.
5. Average Physical Product of Labour (APPL) = q/L
Marginal Physical Product of Labour (MPPL) = $\text{Change } q/\text{Change } L$

MPP1 is the output generated by an additional unit of labour.

6. When increasing amounts of a variable resource are applied to a fixed resource, although the MPP of the variable factor may initially rise, beyond some point its marginal product inevitably falls, according to the law of diminishing marginal returns.
7. A firm's total costs can be separated into fixed costs and variable costs.

Fixed costs (overhead)--do not vary with output and do not alter rational decisions

e.g.-- leases, utility hookup charges, etc are fixed costs in the short-run

Variable costs --costs that vary when output is changed

e.g.-- wages, bills for raw materials, etc

8. When total fixed costs and total variable costs are each divided by output, AFC Average Fixed Costs and AVC Average Variable Costs are obtained.

Summing the two: $AVC + AFC = ATC$ (Average Total Costs)

Marginal costs (MC) = additional cost of producing one more unit of a good.

= $\text{Change TC} / \text{Change } q$

9. Firms can enter or leave an industry in the long run because all resources are variable.

LRAC--Long Run Average Cost Curve--an envelope curve under all short run average cost curves (different-sized plants).

--shows the minimum long-run average cost curves typically have

economies of scale (LRAC) is falling) over some portion of the curve, but eventually exhibit diseconomies of scale (LRAC rising).

10. Measuring long-run costs is complex and a difficult task. One method is to examine the size and cost structure of firms that have been successful and have survived in an industry over a long period of time, but reasons other than efficiency may explain why one firm survives while another does not.

11. Technological Progress increases output from given resources.

⁷ Ibid ., p. 463.

ECONOMICS 210 -- CHAPTER 23 -- THE COMPETITIVE IDEAL

- I. THE WORLD OF PURE COMPETITION
- II. COMPETITION VS. COMPETING
- III. SUPPLY RESPONSES AND TIME
- IV. SHORT-RUN COMPETITIVE PRICING AND OUTPUT
 - a) Total Revenue Minus Total Cost Approach
 - b) Marginal Revenue Equals Marginal Cost Approach
 - c) Short-Run Supply Curves of Purely Competitive Firms
 - d) The Short-Run Industry Supply Curve
- V. LONG-RUN ADJUSTMENTS IN COMPETITIVE INDUSTRIES
 - a) Economic Profits as Market Signals
 - b) The Process of Competition
 - c) Long-Run Equilibrium in a Competitive Industry
 - d) Long-Run Industry Supply Curves
- VI. EVALUATING COMPETITIVE MARKETS
 - a) Economic Efficiency
 - b) Social Welfare
 - c) Decentralized Decisions and Freedom
 - d) Some Shortcomings of Market Economies

CHAPTER 23 HOMEWORK ASSIGNMENTECONOMICS, Byrnes & Stone, 4th Edition

p. 500: #2, 3, 4

Extra Assignment

p. 499: #1

2. The stock market is viewed by some critics of capitalism as the epitome of monopoly power. Are most people who buy or sell stock price makers or price takers? Do you think stock and commodity markets basically meet the requirements for competitive markets? Why or why not?
3. Would you expect someone who selected stocks by throwing darts at stock market reports in the *Wall Street Journal* to experience systematically different economic profits than an expert financial analyst who spent hours every day studying the stock market? If not, what might explain systematically different rates of return reported by their bookkeepers?
4. Is a big city economy more competitive than one in a small town? How? Do you think your grocer has monopoly power? How much? Can you cite recent market entry and exit among firms located within five miles of your home? What industries have been involved? Do you know of any giant firms that have emerged, almost from oblivion, in the past five years? Any that have failed? Is our economy basically competitive or noncompetitive?

1. Cost and output data for a purely competitive firm are provided in the following table. Assume that fixed costs are equal to \$40 and that the market price facing the firm is \$30 per unit.

Quantity	1	2	3	4	5	6	7	8
TVC	30	55	75	90	110	135	165	200

What is the profit-maximizing rate of output? What does maximum profit equal? At what price will the firm close its doors? What output would this firm produce in the long run if the price remains constant?

CHAPTER 23 SUMMARY -- THE COMPETITIVE IDEAL

1. Freedom of entry and exit is the hallmark of competition. A purely competitive market is composed of numerous potential suppliers and sellers of a homogeneous product, none of whom controls its price or is considered a price maker.
2. A competitive buyer faces a perfectly elastic supply curve, while competitive sellers face perfectly elastic demand curves. In competition, all are price takers or quantity adjusters.
3. We assume that no firm can adjust output in the market period so total supply is perfectly inelastic.

In the short-run (SR), existing firms in an industry can vary output, but at least one productive factor is fixed and entry and exit cannot occur. Total supply is at least somewhat elastic.

Supply is much more elastic in the long-run (LR), because all factors of production are variable and firms may enter or exit the industry.

4. The competitive firm maximizes profits by producing output up to the point where Total Revenues minus Total Costs (TR - TC) is maximized. This also occurs when Marginal Revenue equals Marginal Cost (MR = MC). Price must be greater than the minimum of the average variable cost curve, however, which is the shutdown point. Because competitive firms face perfectly elastic demands, price and marginal revenue are identical. Break-even points are the quantities at which total revenue and total costs are equal.

5. A competitive firm's short-run supply curve is its marginal cost curve above the minimum of its average variable costs. Horizontally summing the marginal costs from existing firms yields the short-run industry supply curve .
6. Competition erases economic profits through entry of new firms in the long run, and economic losses are eradicated by exit from the industry. Thus, competitive firms receive exactly enough revenue over the long run to pay the opportunity costs of resources used and realize only zero economic profit .
7. Short-run economic profits are ultimately eliminated because either output will be expanded by both existing and new firms in a competitive industry or increased competition for profitable inputs will drive up resource costs. The long-run adjustments that eliminate short-run losses follow precisely the reverse patterns.
8. In the long-run, firms are forced by competitive pressures to adopt the most efficient (least costly) plant size and technologies. They operate at output levels where:

$$\underline{P = MR = SRAC = SRMC = LRAC = LRMC} .$$

9. For constant-cost industries , the minimum LRAC for firms is the same no matter how many firms are in the industry. Costs increase for each firm as firms enter increasing-cost industries, and decrease for decreasing-cost industries.

Increasing-cost industries --positively sloped LRISC

Constant-cost industries --horizontal LR industry supply curves

Decreasing-cost industries --negatively sloped LRISC

10. A purely competitive market is efficient in the sense that goods are produced at the lowest possible opportunity cost. Every feasible bit of net gain is squeezed from the resources available. Marginal social benefits and marginal social costs are equated by competitive forces of supply and demand ($MSB = MSC$), assuming the absence of externalities. This will be socially optimal and maximize social welfare if the distribution of income is deemed appropriate. A market system does not require that decision-making power be vested in a central authority. This permits substantial personal freedom and the absence of coercion.

⁸ Ibid ., p.499.

ECONOMICS 210 -- Chapter 24 -- MONOPOLYI. MONOPOLY MARKETSII. MONOPOLY PRICING AND OUTPUT

- a) Monopoly Power and Demand
- b) Maintaining Monopoly Power: Barriers to Entry
- c) Contestable Markets

III. PRICE DISCRIMINATION

- a) Requirements for Price Discrimination
- b) Profit Maximization and Price Discrimination

IV. COMPARING COMPETITIVE AND MONOPOLY MARKETS

- a) Differences in Prices and Outputs
- b) The Inefficiency of Monopoly
- c) Price Discrimination and Efficiency
- d) Monopoly and Inequality

CHAPTER 24 HOMEWORK ASSIGNMENT

ECONOMICS, Byrnes & Stone, 4th Edition

p. 521: #3, 7

Extra Assignment

p. 520: #1

3. What, if anything, limits the power of the following suppliers to price discriminate? Do typical members of any of these groups attempt perfect price discrimination? Rank these groups according to how much price discrimination you think they typically exercise.
 - a. The only bank in a small farming community.
 - b. A car dealer.
 - c. A grocery store.
 - d. A sole supplier of affection to someone who is head-over-heels in love.
 - e. A private college with a large endowment fund for scholarships.

7. Suppose you are the owner-operator of three of the four downhill ski slopes in Aspen, Colorado. Your competitor suggests that you jointly offer four-mountain, 6- or 7-day discount tickets that would permit visitors to ski any mountain on any day of their visit. Revenue would be split based on where skiers actually used the lift tickets included in the booklet.
 - a. Who stands to benefit most from this proposal?
 - b. For what reasons might you not want to accept this proposal?
 - c. Does your control of three of Aspen's four ski slopes constitute a monopoly? Do you have significant monopoly power?
 - d. If you decided to offer a three-mountain, 6- or 7-day special coupon booklet yourself, do you think it would sell? What would that do to your competitor? What could your competitor do to combat this threat?
 - e. Would it be *economically efficient* if the courts forced you to agree to the four-mountain, 6- or 7-day package? Would it be *fair*?

1. Table 1 lists the demand schedule and total variable costs for a monopolist. Assume that fixed costs are equal to 30. Graph the demand, marginal revenue, average total cost, and marginal cost curves. What is the profit-maximizing rate of output for the nondiscriminating monopolist? What will be the profit-maximizing rate of output if the monopolist can perfectly price discriminate? What is the profit differential between the two?

TABLE 1 *The Demand Schedule and Total Variable Costs for a Monopolist*

Output	1	2	3	4	5	6	7	8	9	10
Price	100	90	80	75	70	65	60	50	40	30
TVC	100	175	225	265	300	330	365	410	475	575

CHAPTER 24 SUMMARY -- MONOPOLY

1. An unregulated monopoly controls the output and price of a good for which there are no close substitutes.
2. Few monopolies are unregulated, but all firms with any ability to control prices have monopoly power. Models of pure monopoly provide insights into the behaviour of the many firms with this power.
3. Monopoly power is maintained through barriers to entry. Barriers may be artificial, such as government patents or licences, excessive model changes, and so on. Other entry barriers may be "natural"--the result of extreme economies of scale, where average costs decline over a large range of output. A natural monopoly emerges if market demand falls within such ranges.
4. A nondiscriminating monopolist's marginal revenue is less than its price. Marginal revenue equals the price the monopolist receives from the sale of the additional unit minus the revenue lost because prices must be reduced on all other units sold. Monopoly power causes the marginal revenue curve to lie below the demand curve.
5. The demand for a good is elastic when output is below the quantity where marginal revenue is zero. Demand is unitarily elastic when marginal revenue is zero. Demand is inelastic for outputs above the point where marginal revenue is zero.
6. A monopolist maximizes profit (or minimizes loss) by selling that output where marginal revenue equals marginal cost. The price

- charged corresponds to the maximum price from the demand curve at this $MR = MC$ output level.
7. Monopolists' profit-maximizing (or loss-minimizing) levels of output do not normally occur at the minimum points on average cost curves. This level of output can either be less or more than the minimum average cost output.
 8. If a monopolist is able to maintain its monopoly position in the long-run, then pricing, output and economic profit will reflect variations in demand. A monopolist may also choose inefficient, but comfortable, policies.
 9. Price discrimination entails sales of essentially the same good at different prices when these differences are not justified by variations in costs. Price discrimination occurs in airline fares, theater ticket prices, charges for medical and dental services, and in many other areas.
 10. Effective price discrimination requires a firm to have some monopoly power and the ability to separate customers into groups with different price elasticities of demand for the good. Further, it must prevent arbitrage --the selling of the good to high-price customers by low-price customers.
 11. Price discrimination boosts a firm's total profit. Perfect price discrimination allows a firm to reap as profit all the consumer surplus that could be derived from the profit.
 12. A nondiscriminating monopoly is less economically efficient from society's point of view than are competitive industries. A

monopolist typically produces less than if the industry were purely competitive and sells at a higher price. Price discrimination may reduce this inefficiency but it intensifies questions about equity in the distribution of income.

^a Ibid ., pp. 519-520.

ECONOMICS 210 -- Chapter 25 -- MONOPOLISTIC COMPETITION AND OLIGOPOLYI. PRODUCT DIFFERENTIATIONII. MONOPOLISTIC COMPETITION

- a) Short-Run Pricing and Output
- b) Long-Run Adjustments
- c) Resource Allocation and Efficiency

III. OLIGOPOLY

- a) Dominance by a Few Firms
- b) How Oligopoly Arises
- c) Conscious Interdependence

IV. OLIGOPOLISTIC DECISION MAKING

- a) The Kinked Demand Curve
- b) Limit Pricing to Deter Entry
- c) Cartels
- d) Game Theory

V. EVALUATING OLIGOPOLY

CHAPTER 25 HOMEWORK ASSIGNMENTECONOMICS, Byrnes & Stone, 4th Ed

pp. 541-542: #1, 5, 8, 10

Extra Assignment

p. 541: Problem #1

1. Are the following examples of persuasive or informative advertising?
 - a. Newspaper want ads.
 - b. "Coke's the one."
 - c. "Merrill Lynch is 'bullish' on America."
 - d. "Del Monte now offers more than twenty Mexican food products."
 - e. "Symphony Homes—spacious mountainview living for as little as \$59,950."
 - f. "Allstate—the 'good hands' people."
 - g. Coupons for new products in grocery store advertisements.
 - h. "You could drive to the moon and back before the gas you'd save with a Toyota would be worth more than the money you'd save buying a Pontiac."
 - i. "Buy a new Dodge before May 1 and get a \$500 rebate from Chrysler."
 - j. "Use Hoarse, the cough medicine more doctors recommend."
5. One oligopoly model suggests that firms will attempt to capture as large a market share as possible by locating in the center of the market. This model suggests that people will not be served if they want substantially different products than the majority of people. According to the developer of this model, Harold Hotelling, this accounts for such things as parallel programming by television networks, the middle-of-the-road images sought by politicians, the homogeneity of apple cider, the similarities between Protestant churches, and the phenomenon of four gas stations at the corners of busy intersections, among other things. How do you think his view that there is too little product differentiation stacks up against the view that monopolistic competition causes too much artificial product differentiation?
 8. In the 1950s teenagers sometimes played a game called "chicken." Drivers initially half a mile apart would drive their cars at each other at high speed. The first driver who turned to avoid a crash was castigated as a "chicken." What do you think was the most common result of this game? How does this game resemble the nuclear weapons races that sometimes characterize relationships between the United States and the Soviet Union?
 10. Standard models predict that if firms wield monopoly power, price will exceed marginal cost and, thus, that there will be inefficiency in equilibrium. These models assume that every good has only a single price, but the reality is that quantity discounts, coupons, and other marketing promotions create tremendous disparities in prices at all times. Does the pervasiveness of price discrimination counter much of the argument that monopolistically competitive or oligopolistic markets are inherently inefficient? Why or why not?
1. Calculate concentration ratios for the four largest (CR4) and eight largest (CR8) firms in the following industries. Rank these industries from most to least concentrated. Are these CRs consistent?
 - a. The plate glass industry has annual sales of \$4 billion. The ten largest glass producers had 1988 sales (in millions of dollars) equal to: Able = \$725, Baker = \$380, Charlie = \$145, Darwin = \$710, Eden = \$68, Foxtrot = \$110, Gulf = \$350, Hurricane = \$911, India = \$168, and Joker = \$319.
 - b. Annual pencil sales are \$600 million, shared (in millions of dollars) among all pencil makers as follows: Smudge = \$13, Taxman = \$243, Utmost = \$122, Vexation = \$114, Wax = \$78, Xenon = \$12, Zebra = \$18.
 - c. Annual sales of printing equipment total \$7 billion, shared (in millions of dollars) as follows: 15 small specialty firms average \$40, Korabi = \$1,215, Lommox = \$642, Mongo = \$222, Nota = \$98, Oryx = \$789, Pogo = \$2,130, Quzer = \$166, Rastafa = \$87, and 291 tiny firms split the remaining sales.

CHAPTER 25 SUMMARY -- MONOPOLISTIC COMPETITION AND OLIGOPOLY

1. Most U.S. markets fit neither the purely competitive nor the monopoly molds. Most industries are monopolistically competitive or oligopolistic.
2. Product differentiation refers to the differences that consumers perceive in goods that are close substitutes. These differences can be real or imagined. They are created by such things as advertising and promotion and/or by differences in the actual goods. Product differentiation is intended to expand the demand for a firm's output and make demand less elastic.
3. Monopolistic competition occurs when entry into an industry is easy and there are large numbers of suppliers of slightly differentiated products. Demands for a pure competitor's products are perfectly elastic (horizontal at the market price), but the demands facing monopolistic competitors are negatively sloped but still highly elastic.
4. Monopolistically competitive firms produce and sell levels of output that equate marginal revenue and marginal cost. The price is then determined by demand. This is similar to pure monopoly, but the level of short-run profits derived from monopoly power is generally lower, given that numerous other firms sell close substitutes.
5. Entry is relatively easy in monopolistic competition, so accounting profits are reduced to normal levels (zero economic profits) in the long run. Equilibrium output will be less and prices will be

higher, however, under monopolistic competition than in purely competitive markets. Higher prices and lower levels of output are the costs of product differentiation.

6. An oligopoly is an industry comprised of a few sellers who recognize their mutual interdependence. Competitive strategies by one firm in the industry will normally be countered by the other sellers.
7. Economies of scale are one of several reasons for oligopoly. Some goods require substantial plant and equipment so that efficient production requires servicing a considerable portion of the total industry demand. Mergers also facilitate the creation of oligopolies by joining competitors into single firms. Finally, oligopolies may exist because of legal or other artificial barriers to entry that deter new firms from entering the industry.
8. There are hundreds of oligopoly pricing models, but they break down into two major categories: collusive and noncollusive. The Kinked demand curve model assumes that if one firm raises its prices, other firms will ignore the increase, while other firms in the industry will match any price cuts. The result is a demand curve for the firm that is kinked at the current equilibrium price. This irregularity leads to a discontinuity (gap) in the marginal revenue curve. Consequently, changes in costs may not lead to changes in prices. This theory forecasts "sticky" prices in oligopolistic industries, but price stickiness is not confirmed empirically. Kinked demand curve models also fail to explain how

the original equilibrium price is established, and how prices change, or how entry by new rivals is deterred.

9. Limit Pricing is a model of how oligopolists maintain market power by deterring entry. Oligopolists may establish a low price, making it unprofitable for new firms to enter the industry. Existing firms then accept lower short-run profits to preserve economic profits over the long run.
10. A cartel is an effort by firms in an industry to collude, setting prices and limiting output for all its members. Cartels must be concentrated in the hands of a few firms that control significant proportions of an industry's output. The product needs to be reasonably homogeneous, since agreements regarding heterogeneous products would be complex and difficult to enforce.
11. Cartels try to maximize joint profits and then allocate territories or industry output quotas. The stability of any cartel is threatened by the profitability associated with undetected price cuts, or "cheating"; by potential new entrants who seek to share in profits; and by adverse legal action. Collusion is illegal in most markets in the United States.
12. Game Theory is an attempt to model strategic behaviour. It requires pairing each possible option open to each participant with the options available to other participants, and then ascertaining the most likely sets of options.
13. Industry output will be less and prices will be higher under oligopoly than in pure or monopolistic competition. Some

economists argue that monopoly profits for large firms are necessary to finance extensive research and development activities and facilitate technological advance. The evidence does not confirm this hypothesis.

¹⁰ Ibid ., pp. 540-541.

ECONOMICS 210 - Chapter 26 - ANTITRUST POLICY: REDUCING MONOPOLY POWER

- I. MEASURING MARKET POWER
 - a) The Lerner Index of Monopoly Power
 - b) Market Concentration Ratios
 - c) The Herfindahl-Hirschman Index
- II. MERGERS AND MONOPOLY POWER
 - a) The Urge to Merge
 - b) Major Merger Movements
 - c) The Urge to Purge
 - d) Public Policy Toward Business
- III. ANTITRUST POLICY
 - a) The Argument for Bigness
 - b) The Antitrust Laws
 - c) Exemptions from Antitrust Laws
- IV. THE ANTITRUST LAWS IN PRACTICE
 - a) Monopolization and Monopoly Power
 - b) Antitrust Policy in Oligopoly Markets
 - c) Merger Policy
- V. THE FUTURE OF ANTITRUST POLICY

CHAPTER 26 HOMEWORK ASSIGNMENTECONOMICS, Byrnes & Stone, 4th Edition

pp. 559-560: #3, 5, 6, 8

3. When the Oakland Raiders moved to Los Angeles in 1982 they touched a vital nerve of the National Football League. This move, which was subsequently upheld by the courts, weakened the NFL's influence over the movement of franchises and threatened to undercut the pooling of network television revenues (60 percent of NFL income). The NFL is now lobbying Congress for a blanket antitrust exemption. Do you think professional sports should be exempt from antitrust laws? Should owners of professional teams be permitted to move their teams at their discretion? Critics of the NFL argue that the league "is more interested in limiting the number of teams and ensuring profits for the existing 28 owners." Do you agree?
5. In some concentrated industries, most notably cigarettes and breakfast cereals, the largest firms continually introduce new brands so fast that entry into the industry by smaller firms may be virtually impossible. Should these barriers to entry be permitted? Would consumers lose if existing firms were required to reduce the numbers of brands they market? Explain.
6. A decade ago, the computer industry was dominated by a few companies. Today, competition is fierce. What accounts for the change—government antitrust action? Is the same thing likely to occur in steel, aluminum, and other basic industries? Why?
8. Government antitrust actions have been notoriously large and expensive (the IBM and AT&T cases are examples). The typical *private* antitrust case involves about \$50,000 in legal fees for each side, about thirty hours of top executives' time, and is usually completed within two years. Because private antitrust actions are relatively inexpensive, some have argued that the law should be liberalized to permit more private antitrust suits and curtail the federal government's role. Do you think this is a workable solution to the mounting costs of federal antitrust litigation? What problems might this pose?

CHAPTER 26 SUMMARY -- ANTITRUST POLICY: REDUCING MONOPOLY POWER

1. Monopoly Power exists whenever a firm can set the price of its output. (Monopoly power and monopoly are not synonymous.) As monopoly power grows, the gap between price (P) and marginal cost (MC) widens. The Lerner index of monopoly power (LMP) uses this fact to measure monopoly power as $(P - MC)/P$. Estimating MC with accounting data is difficult, however, and using average costs as a proxy for MC may overstate monopoly power.
2. Market concentration ratios provide some evidence of monopolization or oligopolistic power. Concentration ratios are the percentages of total sales, output, or employment in an industry controlled by a small number of the largest firms in the industry. Concentration ratios for the Big 4, Big 8, Big 20, and Big 50 are computed for many industries.
3. Major difficulties are encountered in defining an industry. The existence of close consumption substitutes is one consideration; the ease with which potential competitors might enter an industry (contestability) is another. The Department of Commerce lumps firms into Standard Industrial Classifications (SICs) to try and solve this problem, but with only mixed success.
4. The Herfindahl-Hirschman Index (HHI) is the sum of squared market shares. Squaring places more emphasis on big firms. The Justice Department now uses the HHI as a guide to the permissibility of mergers.

5. Concentration varies substantially between industries. Nearly 100 percent of all cigarettes produced and sold in the United States are produced by fewer than eight companies, and the eight largest printing companies produce about one-tenth of all printing.

Roughly 70 percent of all manufacturing assets, however, are controlled by the 200 largest American corporations. The numbers on concentration within industries grew dramatically from 1890 to 1929, but have only crept up slowly since.

6. Big firms might be justified by enormous capital requirements or substantial economies of scale. In those instances, proper public policy may take the form of regulation. The major thrust of public policy where no such justifications for bigness exist has been to encourage competition through antitrust actions. The current level of concentration is testimony to the apparent failure of this policy.

7. One reason for merger is to increase the scope of a firm's operations so that economies of scale in information, marketing, advertising, production, or financial management may be exploited. A second reason, which is far more important for public policy, is that merger may eliminate business rivals and facilitate increases in economic concentration and monopoly power. Increases in monopoly power that result from merger may be reflected rapidly in higher prices for the merged companies' stock. This creates promotional profit for current stockholders.

8. The first major wave of mergers in the United States lasted roughly from 1890 until 1914, and was dominated by horizontal mergers--the absorption of firms' competitors.
9. Most horizontal mergers were outlawed with the passage of the Clayton Antitrust Act , so a wave of vertical mergers, lasting from 1914 until the 1929 stock market crash resulted in further economic concentration. Vertical mergers unite suppliers of raw materials or intermediate goods with processors or other firms further along the production chain.
10. Merger activity died during the Great Depression, but revived in the mid-1950s. Since most vertical mergers were prohibited by the Celler-Kefauver Antimerger Act, companies that were very dissimilar were merged into conglomerates . Merger activities slowed down during the 1970's but re-emerged strongly during the 1980s.
11. The Big Five Antitrust Laws are:
 - 1) Sherman Antitrust Act (1890)
 - 2) Clayton Act (1914)
 - 3) Federal Trade Commission Act (1914)
 - 4) Robinson-Patman Act (1936)
 - 5) Celler-Kefauver Antimerger Act (1950)
12. Agricultural cooperatives, athletic organizations, labour unions, export trade associations, and regulated industries are largely exempt from antitrust action.
13. In applying the Sherman Antitrust Act , the Court has historically

taken two different approaches. The rule of reason approach prohibits bad monopolies and permits reasonable restraints on trade, while the per se doctrine forbids all monopolies regardless of conduct.

14. Merger policy is now based on various factors, but if the post-merger HHI exceeds 1,800, the Department of Justice is likely to challenge the merger.

¹¹ Ibid ., pp. 558-559.

ECONOMICS 210 -- CHAPTER 36 -- INTERNATIONAL TRADE

- I. THE SIZE AND SCOPE OF TRADE
- II. WHY DO NATIONS TRADE?
 - a) The Concept of Absolute Advantage
 - b) The Law of Comparative Advantage
- III. GAINS FROM TRADE
 - a) Uniqueness Gains
 - b) Gains from Scale
 - c) Short-Run Specialization Gains
 - d) Long-Run Dynamic Gains
 - e) International Political Stability
- IV. NET GAINS FROM SPECIALIZATION
 - a) Short-Run Gainers and Potential Losers
 - b) Individual Gainers and Losers
 - c) Trade Adjustment Assistance
- V. ARGUMENTS AGAINST FREE TRADE
 - a) Nationalism
 - b) The Exploitation Doctrine
 - c) Retaliation
 - d) Anti-Dumping
 - e) Infant Industries
 - f) Trade and Payment Deficits
 - g) Job Destruction
 - h) Harmful Income Redistribution
 - i) Exploiting Monopoly/Monopsony Power

V. ARGUMENTS AGAINST FREE TRADE (CONTINUED)

j) Diversity

k) National Defense

VI. TRADE BARRIERS

a) Tarrifs

b) Non-Tarrif Barriers

VII. A FINAL ARGUMENT FOR FREER TRADE

generally vary from one point to another on a supply curve.

5. An equilibrium price is a price that can be maintained. In a competitive market, it is the price where the quantity demanded equals the quantity supplied. In other words, it is the price where the demand curve intersects the supply curve. If the actual price exceeds the equilibrium price, there will be an excess supply of the good, and the actual price will tend to fall. If the actual price is less than the equilibrium price, there will be an excess demand for the good, and the actual price will tend to rise.
6. In general, a shift to the right of the demand curve results in an increase in the equilibrium price, and a shift to the left in the demand curve results in a decrease in equilibrium price. In general, a shift to the right in the supply curve results in a decrease in the equilibrium price, and a shift to the left in the supply curve results in an increase in the equilibrium price.
7. Demand-and-supply analysis can be used to predict the effect of an excise tax. Since the tax is collected from the sellers, the supply curve of the good on which the tax is imposed is shifted upward by the amount of the tax. How much the price of the good is increased by the tax depends on how sensitive the quantity demanded and quantity supplied are to changes in the price of the good.
8. Models of this type can also be used to analyze the effects of price floors and price ceilings imposed by the government.

Price floors tend to result in surpluses, and price ceilings tend to result in shortages.

9. In some markets, it is important to recognize that buyers and sellers have imperfect information. Under certain circumstances, the winning bid in an auction is likely to be too high if it equals what the bidder believes to be the value of the auctioned item. This is the "winner's curse."
10. Buyers and sellers sometimes do not have the same information. For example, the seller of a used car generally knows far more about its performance and weaknesses than does the buyer. This asymmetry of information can have an important influence on how a market functions.

¹⁵ Ibid ., pp. 45-46.

ECONOMICS 330CHAPTER 3 OUTLINE -- TASTES AND PREFERENCES OF THE CONSUMER

- I. The Nature of the Consumer's Preferences
 - II. Indifference Curves
 - III. The Concept of Utility
e.g. --The Experimental Determination of Indifference
Curves
 - IV. The Budget Line
 - V. The Equilibrium of the Consumer
e.g. -- Sickness and Health Insurance
 - VI. Corner Solutions
 - VII. Determinants of Consumer Tastes and Preferences
e.g. -- The Food Stamp Program
 - VIII. Budget Allocation by a Government Agency: Application
- APPENDIX: Ordinal and Cardinal Utility

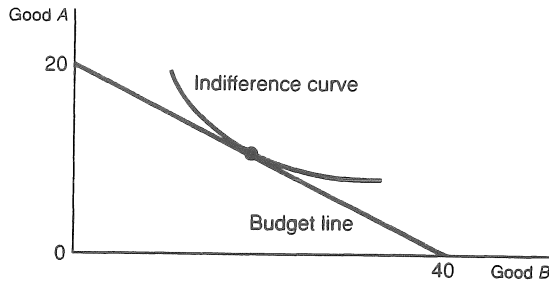
EC 330 -- CHAPTER 3 HOMEWORK ASSIGNMENT

MICROECONOMICS--THEORY AND APPLICATIONS, Edwin Mansfield,

7th Edition

pp. 72-73: #1, 3, 10

- In the diagram below, we show one of Ellen White's indifference curves and her budget line. If the price of good *A* is \$50, what is Ms. White's income? What is the equation for her budget line? What is the slope of the budget line? What is the price of good *B*? What is her marginal rate of substitution in equilibrium?



- One of Ms. Jones's indifference curves includes the following market baskets. Each of these market baskets gives her equal satisfaction.

Market basket	Meat (pounds)	Potatoes (pounds)
1	2	8
2	3	7
3	4	6
4	5	5
5	6	4
6	7	3
7	8	2
8	9	1

In her case, what is the marginal rate of substitution of potatoes for meat? How does the marginal rate of substitution vary as she consumes more meat and less potatoes? Is this realistic?

- Steve Walcott spends a total of \$4,000 per month on goods *A* and *B*. The price of *A* is \$200 per unit, and the price of *B* is \$800 per unit. Draw Mr. Walcott's budget line. At what point does it cut the axis along which the quantity of *A* is measured? At what point does it cut the axis along which the quantity of *B* is measured? What is its slope?

*This question pertains to the chapter appendix.

ECONOMICS 330CHAPTER 3 SUMMARY -- THE TASTES AND PREFERENCES OF THE CONSUMER

1. We assume that, when confronted with two market baskets, a consumer can say which one is preferred, or whether he or she is indifferent between them. Also, we assume that the consumer's tastes are transitive and that a commodity is defined in such a way that more is preferred to less.
2. An indifference curve is the locus of points representing market baskets among which the consumer is indifferent. A consumer's tastes can be represented by a set of indifference curves. An indifference curve must have a negative slope, and two indifference curves cannot intersect. Market baskets on higher indifference curves provide more satisfaction than those on lower indifference curves.
3. The slope of an indifference curve (multiplied by -1) is called the marginal rate of substitution. The marginal rate of substitution shows approximately how many units of one good must be given up if the consumer, after receiving an extra unit of another good, is to maintain a constant level of satisfaction.
4. Utility is a number that indexes the level of satisfaction derived from a particular market basket. Market baskets with higher utilities are preferred over market baskets with lower utilities. The consumer is assumed to be rational in the sense that he or she tries to maximize utility.
5. The budget line indicates all of the combinations of quantities

of goods--all of the market baskets--that the consumer can buy, given his or her money income and the level of each price. In equilibrium, we would expect the consumer to attain the highest level of satisfaction that is compatible with the budget line, which means that the consumer will choose the market basket on the budget line that is on the highest indifference curve. This market basket is at a point where the budget line is tangent to an indifference curve (unless there is a corner solution).

¹⁶ Ibid ., pp. 71-72.

CHAPTER 4 OUTLINE --CONSUMER BEHAVIOUR AND INDIVIDUAL DEMAND

- I. The Equilibrium of the Consumer: Review and Another
Viewpoint
- II. Effects of Changes in Consumer Money Income
- III. Effects of Changes in Commodity Price
- IV. Substitution and Income Effects
- V. Consumer's Surplus
- VII. Indexes of the Cost of Living
- VIII. Problems With the Price Index

EC 330 -- CHAPTER 4 HOMEWORK ASSIGNMENT

MICROECONOMICS--THEORY AND APPLICATIONS, Edwin Mansfield,

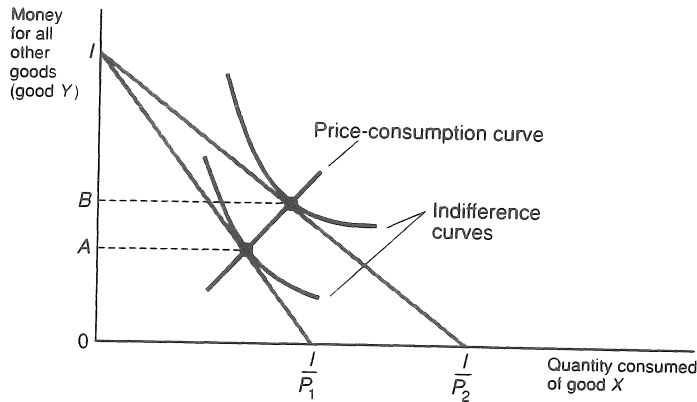
7th Edition

pp. 103-105: #1, 7, 9, 10

1. As shown on p. 104, the price-consumption curve for good X is upward sloping when good Y is the money spent by the consumer on goods other than good X . Of course, good Y is a peculiar sort of good, but there is nothing to prevent us from defining a good in this way. In weighing every purchase the consumer must decide whether to give up

money he or she can spend on goods other than good X in exchange for good X . Since good Y is money, its price is always 1. (For example, it takes a quarter to buy a quarter.)

(a) Prove that the consumer's demand curve for good X is price inelastic. (Hint: Recall from Chapter 2 that, if the demand for a good is price inelastic, a decrease in its price results in a decrease in the amount spent on it.) (b) Prove that, if this price-consumption curve were downward sloping, the consumer's demand curve for good X would be price elastic.



7. According to some observers, the typical Irish peasant in the nineteenth century was so poor he spent almost all his income for potatoes. When the price of potatoes fell, he could get the same amount of nutrition for a smaller expenditure on potatoes, so some of his income was diverted to vegetables and meat. Since the latter also provided calories, he could even reduce his consumption of potatoes under these circumstances. If this is true, were potatoes (a) a normal good? (b) an inferior good? (c) a good exhibiting Giffen's paradox?
9. Suppose that a 1 percent increase in the price of pork chops results in Ms. Smith's buying 3 percent fewer pork chops per week. What is the price elasticity of demand for pork chops on the part of Ms. Smith? Is her demand for pork chops price elastic or price inelastic? Will an increase in the price of pork chops result in an increase, or a decrease, in the total amount of money that she spends on pork chops?
10. Calculate a cost-of-living index for a family that consumes the following amounts of bread and clothing (and no other goods) in 1990 and 1993:

	1990	1993
Amount consumed of bread	100	140
Amount consumed of clothing	120	130
Price of bread (dollars)	0.30	0.50
Price of clothing (dollars)	30.00	40.00

ECONOMICS 330CHAPTER 4 SUMMARY -- CONSUMER BEHAVIOUR AND INDIVIDUAL DEMAND

1. Another way of expressing the conditions for consumer equilibrium is as follows: The rational consumer will choose in equilibrium to allocate his income between good X and good Y in such a way that the marginal rate of substitution of good X for good Y equals the ratio of the price of good X to the price of good Y.
2. If we hold commodity prices constant, each level of money income results in an equilibrium market basket for the consumer, and the curve that connects the points representing all of these equilibrium market baskets is called the income-consumption curve. This income-consumption curve can be used to derive the Engel curve, which is the relationship between the equilibrium amount of a good purchased by a consumer and the level of the consumer's money income. Engel curves play an important role in family expenditure studies.
3. Holding constant the consumer's money income as well as the prices of other goods, we can determine the relationship between the price of a good and the amount of this good that a consumer will consume. This relationship is called the consumer's individual demand curve for the good in question. The individual demand curve, one of the central concepts in the theory of consumer behaviour, can be derived from the price-consumption curve, which includes all of the equilibrium

- market baskets corresponding to various prices of the good.
4. The location and shape of an individual demand curve will depend on the level of money income and the level at which the prices of other goods are held constant, as well as on the nature of the good and tastes of the consumer. It is important to differentiate between the shifts in a consumer's demand curve for a particular commodity and changes in the amount of the commodity that he or she consumes.
 5. The total effect of a price change on the quantity demanded can be divided into two parts: the substitution effect and the income effect. The substitution effect is the change in quantity demanded of a good resulting from a price change when the level of satisfaction, or real income, is held constant. The income effect shows the effect of the change in real income that is due to the price change. The substitution effect is always negative. The income effect is not predictable from the theory alone: Its sign is different for normal goods than for inferior goods.
 6. An illustration of how this model of consumer behaviour has proved useful is in the construction of the index numbers of the cost of living. The methods used to calculate the Consumer Price Index, as well as its limitations, were discussed.

¹⁷ Ibid ., p. 103.

ECONOMICS 330 - QUIZ INFORMATION

ECONOMICS 330 --QUIZ #1 REVIEWREVIEW CHAPTERS 1, 2 & 3CHAPTER 1

Definitions : Economics

Microeconomics

Model

Know : Tasks performed by economic system

How to evaluate a model

CHAPTER 2

Demand & Demand Shifters

Supply & Supply Shifters

Distinguish between Change in Demand and Change in Q demanded

Distinguish between Change in Supply and Change in Q supplied

Define Price elasticity of supply & demand

Know formulas and be able to compute price elasticity of supply and demand using the:

- a) point formula, and,
- b) arc/midpoint formula.

Know the three ranges of elasticity: elastic/inelastic/unitary

Know relationship between price elasticity and total revenues

Given the equations of S and D , be able to compute P_e and Q_e

Be able to graph and analyze the effect of an excise tax

Know definitions of Price floor & Price ceiling and be able to predict effect of government's imposition of either one on Q_s and Q_d

Define: Winner's curse

Imperfect information.

CHAPTER 3 -- TASTES & PREFERENCES

Know:

- 1) Assumptions re: the Nature of Preferences
- 2) Characteristics of Indifference curves
- 3) MRS (definition & formula)
 be able to compute
- 4) Definition of Utility--Cardinal & Ordinal
- 5) Budget Line -- Be able to find slope/intercepts
- 6) Equilibrium of Consumer
- 7) How to compute Marginal Utility
- 8) Budget allocation rule

Quiz #1--Economics 330--January 28, 1992

1. (3 points)

What are the basic assumptions that economists make about the nature of consumers' tastes?

2. (3 points)

What are three of the characteristics of Indifference Curves?

3. (3 points)

Suppose that a major increase occurs in the cost of producing

hogs (but not in the cost of producing beef). What effect will this have on:

a) the market supply curve for pork?

b) the market demand curve for pork?

c) the equilibrium price of pork?

4. (3 points)

When is it appropriate to use the point formula and the midpoint/ formula for computing price elasticity of demand?

5. (3 points)

What is utility? How does cardinal utility differ from ordinal

utility? Which concept is generally used by economists today?

Problems

1. (5 points)

The equations for the demand and supply of a product are:

$$S = 5 + 2P$$

$$D = 10 - 3P$$

What will be the equilibrium price and equilibrium quantity?

What will occur if price = \$3?

2. (5 points)

Suppose that the number of bicycles demanded in the United States in 1988 at various prices is as follows:

<u>Price of bicycle</u> <u>(dollars)</u>	<u>Quantity demanded per year</u> <u>(millions of bicycles)</u>
80	20
100	18
120	16

Calculate the arc price elasticity of demand when price is between \$80 and \$100.

3. (5 points)

Calculate the Marginal Utility derived from each additional pound of steak consumed and complete the table below:

<u>Pounds of steak</u> <u>consumed per week</u>	<u>Total Utility</u> <u>(utils)</u>	<u>Marginal Utility</u> <u>(utils)</u>
0	0	_____
1	55	_____
2	100	_____
3	140	_____

Does this illustrate the concept of Diminishing Marginal Utility?

APPENDICES

APPENDIX AECONOMICS 210 STUDENT EVALUATIONS (ORIGINALS)

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3. Overall, the instructor rates anA B C D E

SECTION 2

Indicate the level to which you agree with the following statements as follows:

A = Strongly Agree; B = Agree; C = Disagree; D = Strongly Disagree; E = Not Applicable

1. The objectives of the course were clearly communicated. A B C D E
2. The course was in general agreement with what was outlined as objectives. A B C D E
3. The instructor has a grasp of the material being presented. A B C D E
4. The instructor was well organized and used class time well. A B C D E
5. The instructor was available during specified office hours or by appointment. A B C D E
6. The evaluation methods (tests, quizzes and homework) are an appropriate measure of what I have learned. A B C D E
7. The daily lecture was a valuable study resource. A B C D E
8. The textbook was a valuable study tool. A B C D E
9. I would recommend this course to other students. A B C D E
10. I would recommend this teacher to other students. A B C D E

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- 4. The instructor was well organized and used class time well. A B C D E A
- 5. The instructor was available during specified office hours or by appointment. A B C D E A
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- 7. The daily lecture was a valuable study resource. A B C D E A
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5. The instructor was available during specified office hours or by appointment. A B C D E
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7. The daily lecture was a valuable study resource. A B C D E
8. The textbook was a valuable study tool. A B C D E
9. I would recommend this course to other students. A B C D E
10. I would recommend this teacher to other students. A B C D E

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8. The textbook was a valuable study tool. A B C D E
9. I would recommend this course to other students. A B C D E
10. I would recommend this teacher to other students. A B C D E

APPENDIX B

ECONOMICS 330 STUDENT EVALUATIONS (ORIGINALS)

STUDENT EVALUATION OF INSTRUCTOR AND INSTRUCTION

This questionnaire gives you an opportunity to express anonymously your views of this course and the way it was taught. Specific directions are given for completing the questions in this survey.

SECTION 1

Indicate the level to which you agree with the following statements as follows:

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- 2. Overall, the textbook rates anA B C D E
- 3. Overall, the instructor rates anA B C D E

SECTION 2

Indicate the level to which you agree with the following statements as follows:

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- 4. The instructor was well organized and used class time well. A B C D E
- 5. The instructor was available during specified office hours or by appointment. A B C D E
- 6. The evaluation methods (tests, quizzes and homework) are an appropriate measure of what I have learned. A B C D E
- 7. The daily lecture was a valuable study resource. A B C D E
- 8. The textbook was a valuable study tool. A B C D E
- 9. I would recommend this course to other students. A B C D E
- 10. I would recommend this teacher to other students. A B C D E

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- 3. Overall, the instructor rates an A B C D E

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Indicate the level to which you agree with the following statements as follows:

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STUDENT EVALUATION OF INSTRUCTOR AND INSTRUCTION

This questionnaire gives you an opportunity to express anonymously your views of this course and the way it was taught. Specific directions are given for completing the questions in this survey.

SECTION 1

Indicate the level to which you agree with the following statements as follows:

A = Excellent; B = Good; C = Satisfactory; D = Poor; or E = Not applicable or no comment.

- 1. Overall, the course rates an A B C D E
- 2. Overall, the textbook rates an A B C D E
- 3. Overall, the instructor rates an A B C D E

SECTION 2

Indicate the level to which you agree with the following statements as follows:

A = Strongly Agree; B = Agree; C = Disagree; D = Strongly Disagree; E = Not Applicable

- 1. The objectives of the course were clearly communicated. A B C D E
- 2. The course was in general agreement with what was outlined as objectives. A B C D E
- 3. The instructor has a grasp of the material being presented. A B C D E
- 4. The instructor was well organized and used class time well. A B C D E
- 5. The instructor was available during specified office hours or by appointment. A B C D E
- 6. The evaluation methods (tests, quizzes and homework) are an appropriate measure of what I have learned. A B C D E
- 7. The daily lecture was a valuable study resource. A B C D E
- 8. The textbook was a valuable study tool. A B C D E
- 9. I would recommend this course to other students. A B C D E
- 10. I would recommend this teacher to other students. A B C D E

STUDENT EVALUATION OF INSTRUCTOR AND INSTRUCTION

This questionnaire gives you an opportunity to express anonymously your views of this course and the way it was taught. Specific directions are given for completing the questions in this survey.

SECTION 1

Indicate the level to which you agree with the following statements as follows:

A = Excellent; B = Good; C = Satisfactory; D = Poor; or E = Not applicable or no comment.

- 1. Overall, the course rates an A B C D E
- 2. Overall, the textbook rates an A B C D E
- 3. Overall, the instructor rates an A B C D E

SECTION 2

Indicate the level to which you agree with the following statements as follows:

A = Strongly Agree; B = Agree; C = Disagree; D = Strongly Disagree; E = Not Applicable

- 1. The objectives of the course were clearly communicated. A B C D E
- 2. The course was in general agreement with what was outlined as objectives. A B C D E
- 3. The instructor has a grasp of the material being presented. A B C D E
- 4. The instructor was well organized and used class time well. A B C D E
- 5. The instructor was available during specified office hours or by appointment. A B C D E
- 6. The evaluation methods (tests, quizzes and homework) are an appropriate measure of what I have learned. A B C D E
- 7. The daily lecture was a valuable study resource. A B C D E
- 8. The textbook was a valuable study tool. A B C D E
- 9. I would recommend this course to other students. A B C D E
- 10. I would recommend this teacher to other students. A B C D E

STUDENT EVALUATION OF INSTRUCTOR AND INSTRUCTION

This questionnaire gives you an opportunity to express anonymously your views of this course and the way it was taught. Specific directions are given for completing the questions in this survey.

SECTION 1

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Indicate the level to which you agree with the following statements as follows:

A = Excellent; B = Good; C = Satisfactory; D = Poor; or
E = Not applicable or no comment.

1. Overall, the course rates an A B C D E
2. Overall, the textbook rates anA B C D E
3. Overall, the instructor rates anA B C D E

SECTION 2

Indicate the level to which you agree with the following statements as follows:

A = Strongly Agree; B = Agree; C = Disagree; D = Strongly Disagree; E = Not Applicable

1. The objectives of the course were clearly communicated. A B C D E
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7. The daily lecture was a valuable study resource. A B C D E
8. The textbook was a valuable study tool. A B C D E
9. I would recommend this course to other students. A B C D E
10. I would recommend this teacher to other students. A B C D E

APPENDIX C

SUPERVISING TEACHER'S EVALUATION OF TEACHING PERFORMANCE

CLASSIFIED EMPLOYEE ANNUAL PERFORMANCE EVALUATION

Regular

Date	<u>17th March, 1992</u>
Department	<u>Economics</u>
Employee Name	<u>Elizabeth R. DaCosta</u>
Classification	_____
Evaluator	<u>Dr. Peter Iwomi</u>

Special

For each performance criterion below, circle the letter or number which most clearly describes the employee's performance. Use the space marked EXPLANATION to clarify each rating. The performance level definitions are:

N Not Applicable
1 Poor Performer
2 Below Standard

3 Low Standard
4 Standard
5 High Standard

6 Above Standard
7 Exceptional

A. **JOB KNOWLEDGE** — Consider the employee's knowledge of day to day assignments and University/Departmental policies and procedures. Consider the employee's desire to increase his/her knowledge and his/her ability to do so.

EXPLANATION _____ N 1 2 3 4 5 6 7

B. **QUALITY OF WORK** (Double weighted) — Assess the employee's excellence of work accomplished relative to standards/expectations.

EXPLANATION _____ N 1 2 3 4 5 6 7

C. **COOPERATION WITH OTHERS/COMMUNICATION SKILLS** — Consider effectiveness of working relationship with University staff, students, and the public. Consider effectiveness in expressing ideas through speech and writing.

EXPLANATION _____ N 1 2 3 4 5 6 7

D. **QUANTITY OF WORK/PRODUCTIVITY** — Assess the amount or work completed relative to standards/expectations. Consider his/her willingness to assist others and seek additional work when own work is completed.

EXPLANATION _____ N 1 2 3 4 5 6 7

E. **ATTENDANCE/WORK HOURS OBSERVANCE** — Consider the employee's attendance, observation of work hours, requests for vacation/sick leave.

EXPLANATION _____ N 1 2 3 4 5 6 7

Overall Rating - Non-Professional Employee

For lines 1, 2, 4, 5, 6 enter the rating circled on page 1.

Line 1	Job Knowledge Rating		<u>6</u>
Line 2	Quality of Work Rating	<u>6</u>	
Line 3	Multiply line 2 times 2		<u>12</u>
Line 4	Cooperation/Communication Rating		<u>7</u>
Line 5	Quantity of Work/Productivity Rating		<u>6</u>
Line 6	Attendance/Work Hours Observance Rating		<u>6</u>
Line 7	Add lines 1, 3, 4, 5, 6.		<u>37</u>

For lines 8, 9, 11, 12, 13 enter the number 0 if a rating of N was circled on page 1, otherwise enter the number 7.

Line 8	Job Knowledge Max Rating		<u>7</u>
Line 9	Quality of Work Max Rating		<u>7</u>
Line 10	Multiply line 9 times 2		<u>14</u>
Line 11	Cooperation/Communication Max Rating		<u>7</u>
Line 12	Quantity of Work/Productivity Max Rating		<u>7</u>
Line 13	Attendance/Work Hours Observance Max Rating		<u>7</u>
Line 14	Add lines 8, 10, 11, 12, 13.		<u>42</u>
Line 15	Divide line 7 by line 14.		<u>0.76</u>
Line 16	Multiply line 15 times 7.		<u>5.32</u>
Line 17	Multiply line 16 times 25.		<u>133</u>
Line 18	Circle the appropriate rating.		

- If line 17 is less than 50, circle POOR PERFORMER
- If line 17 is greater than or equal to 50, but less than 70, circle BELOW STANDARD PERFORMER
- If line 17 is greater than or equal to 70, but less than 90, circle LOW STANDARD PERFORMER
- If line 17 is greater than or equal to 90, but less than 110, circle STANDARD PERFORMER
- If line 17 is greater than or equal to 110, but less than 130, circle HIGH STANDARD PERFORMER
- If line 17 is greater than or equal to 130, but less than 150, circle **ABOVE STANDARD PERFORMER**
- If line 17 is greater than or equal to 150, circle EXCEPTIONAL PERFORMER

SIGN TO INDICATE ACKNOWLEDGEMENT, BUT NOT NECESSARILY AGREEMENT. (Comment if desired)

Elizabeth A. DeLuca 3/17/92
Employee Signature Date

[Signature]
Supervisor (Rater) Date

[Signature]
Department Head (Reviewer) Date

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