INSTRUCTOR: B. Crowell
OFFICE: 2118/B CASL Annex
PHONE: 436-9183 or 593-5096 (messages)
E-MAIL: bcrowell@umd.umich.edu
OFFICE HOURS: MWF 8:00-8:30, 11:30-12:00, and by appointment most days

UM.CourseTools:
Announcements, syllabus, and some course materials can be found on the internet at
http://coursertools.umum.umich.edu. Students need a campus unique name and password to access
course materials.

FINAL EXAMINATION: Friday, December 14, 8:00-11:00 a.m.

IMPORTANT DATES TO REMEMBER:

September 18: Last day to drop a course without record
November 6: Last day of regular drop period for all students
ECONOMICS 302  
INTERMEDIATE MICROECONOMIC THEORY

COURSE DESCRIPTION

A systematic study of the role of prices in organized economic activity. The tools necessary for such study will be developed and applied to the analysis of the household, the firm, and the market under varying degrees of competition and monopoly. The impact on the market of selected public policies will be discussed.

COURSE OBJECTIVES AND GRADING CRITERIA

It is expected that over the course of the semester the student will develop:

1. a knowledge of the methodology and terminology of microeconomic theory;

2. an understanding of the conceptual and theoretical bases for the analysis of important issues and problems in microeconomics;

3. an awareness of important issues and problems in microeconomics and public economic policy, and

The University Announcement requires grades, the form and meaning of which are given on pp. 22-23. Persons in the course determine their grades by demonstrating on written examinations 1) an understanding of the assigned readings, 2) a grasp of the material covered in class, and 3) an ability to question, analyze, and discuss issues in microeconomics. Each student will have ample opportunity to display his/her progress in the course through performances on homework and quizzes, three unit exams (essay and multiple choice) and a comprehensive final examination (at least 50% of which will be multiple choice questions. See important notes # 3 and #5 below. Each unit exam is worth 100 points; the final, 200. The final is two hours. The lowest 100 point score will be thrown out. The course grade will be based on 500 total possible points. Hourlies are graded on points; letter grades are not assigned. A student's final letter grade for the course will be based on the following scale:

<table>
<thead>
<tr>
<th>Points Range</th>
<th>Percentage</th>
<th>Grade</th>
<th>Description</th>
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<tbody>
<tr>
<td>360 +</td>
<td>(90%)</td>
<td>A</td>
<td>Students with a 90% or above</td>
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<tr>
<td>320-359</td>
<td>(80%)</td>
<td>B</td>
<td>average on all three hourlies</td>
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<tr>
<td>280-319</td>
<td>(70%)</td>
<td>C</td>
<td>are excused from the final exam</td>
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<tr>
<td>240-279</td>
<td>(60%)</td>
<td>D</td>
<td>and will receive an A in the course.</td>
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<td>239 and below</td>
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These figures are approximate; the instructor has been known to lower the scale at the end of the semester (after all grades are in) when to do otherwise would result in excessive chaos. In other words, students should look to maximizing their point value at the end of the course.

NONETHELESS:

1. If the grades are scaled downward, this action will occur during the determination of the final grade distribution—**not** after each exam.
2. A passing grade will not be given for total scores of less than 50% of the total 400 points possible.
3. The average grade given in the class is a C. To earn an A or B, a student must demonstrate consistently excellent or good work, respectively.

IMPORTANT NOTES

1. There will be no makeup of missed exams except in highly unusual and extenuating circumstances (as determined by the instructor). The exam that is missed can be the one that is dropped.

2. Attendance is not required in this course. Any student that can pass this course by merely taking the exams may do so. However, before jumping from the top of the Ren Cen in glee, it must be pointed out that statistics overwhelmingly have indicated a high correlation between the number of absences and low grades in economics courses (and the instructor routinely takes attendance in order to keep the statistics updated). Experience has demonstrated that class attendance and participation are beneficial to one's understanding of the course. Exams are comprehensive, covering both class notes and reading assignments; the two are not always synonymous but instead are intended to complement each other.

NOTE WELL: Moreover, although a student's grade will not be deliberately lowered for excessive unexcused absences, there are certain things that he/she must know. This instructor will give such students:
1. no extra help;
2. no consideration concerning early exams or makeups;
3. no letters of recommendation, and
4. NO BENEFIT OF THE DOUBT IN MARGINAL/BORDERLINE CASES.

3. There are 3 multiple choice practice quizzes in the coursepack. These questions are very similar in content and difficulty level to those appearing on the hourlies and final examination. Answers are distributed on the review day before the final.

4. With respect to incomplete ("I") or "whatever happened to the semester" or "where have all the gut courses gone", this instructor is of an unsympathetic mind. An incomplete will be given only in extremely extenuating circumstances (again, as determined by this instructor). An "I" grade is never given for unsatisfactory work.

5. At least one week's notice will be given before each hour exam. **NOTE:** Review questions are included in the coursepack and at the end of this syllabus.

6. The material in this course is often difficult and tedious. The material for the most part is also cumulative. Hence, it is important that students not get too far behind in text and notes. Also, do not hesitate to ask questions.

7. Any student with special needs requiring extra assistance should report these needs to the instructor the first day of class.

8. Watch out for flying chalk! The instructor is known for throwing chalk when she's been out-joked.
9. This instructor takes a dim view of cheating, plagiarism, and other violations of the Code of Academic Conduct (pp. 58-59, 1995-97 Announcement). The opportunity cost of violating the Code is high; the penalty is failure in the course, not just exam, paper, or homework involved.

10. The final exam for this course will take place during the official Examination Period following the end of classes. The date and time can be found on page 10 in the official Schedule of Classes. If, with so much advance notice, you cannot manage to schedule your vacations, weddings and other auspicious occasions so as to accommodate the Final Exam, you would be well advised to drop the course forthwith.

11. If the posted office hours don't fit your schedule, other arrangements can always be made; just ask. I schedule a minimal number of formal office hours because I'm in a part of every day and am usually willing to see students.

12. Grades are not posted. Students wishing to know their final exam and course grades may submit a stamped, self-addressed envelope/card.

**SPECIAL NEEDS**

Any student with special needs requiring extra assistance should report these needs to the instructor the first day of class. The University will make reasonable accommodations for persons with documented disabilities. Students should register with the disability Resource Services Office located in Counseling and Support Services, 1060 UMall. Eligible students who are not registered with the DRSO should do so within the first few days of the term.

**READINGS**

2. Crowell, COURSEPACK.  
3. Mansfield, STUDY GUIDE - OPTIONAL

NOTE: The coursepack is a must; it has course lecture material (which may or may not be discussed in class), review materials, sample questions, and practice graphs. Review and descriptive lecture materials are included in the coursepack. Students are responsible for all such material. Students do need to consult a textbook from time to time, but intermediate texts are generic (for the most part any will do). Just check with me. However, regardless of the text you use, the definitions and rules used in class take precedence over any inconsistencies in the textbooks.

4. The prerequisites for this course are EC 201 and 202. Since the lectures presume a working knowledge of basic economics principles and analytical techniques, some students may need to refer to a principles text from time to time. Some commonly used texts include those by Hyman, Lipsey & Steiner, Baumol & Blinder, McConnell & Brue, Mansfield, and Wonnacott & Wonnacott. HINT: Review usually is helpful.

5. Several other intermediate micro texts may be used as study aids for students: Glahe & Lee, Nicholson, Call & J. Holahan and Leftwich, Truett & Truett, Mansfield & Salvatore, Praeger, these can be found in the library or borrowed from the instructor.
6. Occasionally, an outside reading from the contemporary economic scene (e.g., articles from THE WALL STREET JOURNAL, FORTUNE, U.S. NEWS & WORLD REPORT) may be assigned.

7. Students should make it a habit to read at least one QUALITY newspaper or one of the good weekly publications in order to keep up with the current economic event.

**COURSE OUTLINE**

1. The assigned readings below refer only to chapters and appendices in the text.
2. Additional problems and readings may be assigned from time to time.
3. Exam times are approximate.
4. There are additional lecture notes in the coursepack. Students are responsible for all material in the coursepack.

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<tr>
<th>TOPIC</th>
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<tr>
<td>I. Introduction</td>
<td>Ch. 1</td>
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<tr>
<td>II. Review of Supply &amp; Demand</td>
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<tr>
<td>A. Supply &amp; demand</td>
<td>Ch. 2; Coursepack;</td>
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<td>B. Elasticity</td>
<td>Principles text; Ch. 19</td>
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<td>C. Applications</td>
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<td>D. Dynamic mode</td>
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<td>III. Theory of Consumer Behavior</td>
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<td>A. Marginal utility analysis</td>
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<td>B. Applications</td>
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<td>E. Market Demand and Elasticity</td>
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<tr>
<td>IV. Theory of the Firm</td>
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<tr>
<td>A. Basic Concepts</td>
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<td>B. Production functions</td>
<td>Chs. 7-8</td>
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<td>C. Cost functions</td>
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<td>D. Pricing &amp; output decision</td>
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<tr>
<td>V. Models of Market Equilibrium</td>
<td>Chs. 9, 5(review)</td>
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<td>VI. Market Structures</td>
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<td>A. Perfect competition</td>
<td>Chs. 9-10</td>
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<td>C.</td>
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<td>D.</td>
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VII. Factor Markets: Income Distribution  

VIII. General Equilibrium and Welfare Economics  

**TEST**
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**Notes:**
- **05/09 and 12/10**
- **05/10, 11/14, 12/7, 12/14-8:00-11:00 am - FINAL EXAM**
SAMPLE TEST

EC 302, Crowell                  Final Exam                  200 points

DIRECTIONS

1. Put name on back cover of bluebook.
2. Read the exam, noting the point value of each question. Allocate your time accordingly.
3. Read each question carefully. Answer the question completely. That is, answer what the question is asking; do not just write a general essay on the topical area.
4. Long, prosy answers are not necessarily the best answers, especially in economics. Use diagrams and outlines, with short explanatory notes and phrases.
5. Good luck! Have a good holiday!

ANSWER 1, 2, and 3; then answer any 3 from 4-8.

1. Define and briefly explain the relevance to an intermediate microeconomic theory class of 10 of the following. NOTE: do only 10; if more than 10 are answered, only the first 10 will be graded. (50 points)
   a. limit pricing
   b. cartel
   c. cobweb theorem
   d. maximin
   e. rectangular hyperbola
   f. third degree
   g. Smith
   h. kinked demand (include diagram)
   i. income effect
   j. Pareto
   k. Laspeyre
   l. law of increasing cost

2. Compare and contrast verbally and graphically the pricing and output decisions for a perfectly competitive firm, a monopolistically competitive firm, and oligopolist, and a monopolist. (30 points)

3. Using indifference curves, analyze the effects of a price change on a normal good and a Giffen good. Be specific and complete; define all terms. How does an inferior good differ--or does it? (30 points)

ANSWER ANY 3 OF THE FOLLOWING 5 (#4-8).

NOTE: Answer only 3; same rules apply as in #1. Each is worth 30 points.

4. Explain and derive graphically the firm's demand curve for a factor in the case of two variable factors. Also explain and derive the market demand for a factor of production. (30 points)

5. Explain thoroughly and demonstrate graphically the necessary conditions for the achievement of equilibrium in both exchange and production. NOTE: be careful. Define all terms. (30 points)
6. Identify verbally and graphically the feasible range of production first for the case of one variable factor and then for the case of two variable factors. Be specific and complete; define all terms. (30 points)

7. Do either A or B. Answer only 1; same rules as in #1.
   A. Explain carefully and derive graphically a backward bending supply of labor. Be careful. Explain completely. Define all terms. (30 points)
   OR
   B. Select either a negative income tax or an in-kind fringe benefit program. Analyze verbally and graphically the impact of the program you have chosen. Be careful. Explain your analysis thoroughly. Define all terms. (30 points)

8. A Company manufactures 2 types of wooden shipping crates (T₁ & T₂). The profit on Type 1 is $20; Type 2, $12. Each crate must go through 2 production processes, A and B. In each production period, a total of 100 hours are available on production line A; a total of 120 hours on line B. Type 1 crates require 2 hours on line A and 4 hours on B. Type 2 requires 5 hours on line A and 3 hours on B. Identify the criterion function and the constraints. Graph the situation. Solve the problem (rounding to the nearest whole number). Explain your solution carefully. (30 points)

   ADDITIONAL SAMPLE QUESTIONS

   1. A decrease in the price of soybean seed will cause:
      a. the demand for soybeans to decrease.
      b. a leftward shift in the supply curve for soybeans.
      c. the supply of soybeans to decrease.
      d. a rightward shift in the supply curve for soybeans.
      e. none of the above.

   2. Which of the following is not true. Price elasticity of demand will tend to be greater the:
      a. less the availability of substitutes.
      b. less the proportion of income that spending on the good is.
      c. shorter the time period.
      d. all of the above.
      e. none of the above.

   3. If there is a decrease in demand and an increase in supply, the equilibrium:
      a. price will increase.       d. quantity will decrease.
      b. price will fall.          e. none of the above.
      c. quantity will increase.

   4. Consumers will tend to be more responsive to a price increase if they believe that the price increase will be relatively short-term rather than long-term.
a. True. b. False.

5. A Giffen good is:
   a. a good with a positive price effect.
   b. is a normal good.
   c. a good with a positive substitution effect.
   d. a and c above.
   e. none of the above.

6. The consumer's demand curve will be upward sloping:
   a. for a Giffen good.
   b. because of the snob effect.
   c. for an inferior good when the income effect outweighs the substitution effect.
   d. all of the above.
   e. only a and b above.

7. An Engel curve will slope upward if a good is:
   a. a normal good. c. relatively high priced.
   b. a black market good. d. none of the above.

8. If the utility received from the last $1 spent on Good A is greater than the utility received from the last $1 spent on Good B, then the consumer should buy:
   a. more A and more B. d. less A and less B.
   b. less A and more B. e. none of the above.
   c. more A and less B.

9. Consumer surplus can be measured by:
   a. a compensated demand curve. d. the coefficient of price elasticity of demand.
   b. an Engel curve. e. none of the above.
   c. a price, consumption curve.

10. If |ε|<1, a price increase will:
    a. increase total revenue.
    b. usually increase total profit.
    c. decrease total profit.
    d. a and b above.
    e. none of the above.

11. In the case of two inputs (K and L), the budget equation for the firm is:
    a. TC = (P_k K) + (P_L L)
    b. Q = f(KL)
    c. TC = (P_k K) (P_L L)
    d. none of the above.

12. If MP_k/P_k>MP_l/P_l, the firm:
13. The least cost combination of inputs is obtained when the marginal product per dollar spent on each input is equal to $\frac{P_L}{P_K}$.
   a. True. b. False.

14. A recipe for baking a cake is quite like a production function.
   a. True. b. False.

15. The minimum of SAC lies:
   a. directly above the minimum of AVC.
   b. to the right of the minimum of AVC.
   c. to the left of the minimum of AVC.
   d. directly above the minimum of SMC.
   e. none of the above.

16. Even if the firm is experiencing an economic loss, it should continue to operate in the short run as long as:
   a. $P > AVC$. d. $P$ is greater than all implicit costs.
   b. $P > AFC$. e. none of the above.
   c. $P$ is greater than all explicit costs.

17. A loss-minimizing firm will go out of business if it does not at least obtain an economic profit.
   a. True. b. False.

18. In a constant cost industry, the long-run industry supply curve is:
   a. undefined. d. a horizontal line.
   b. indeterminate. e. downward/sloping.
   c. a vertical line.

19. A multi-plant firm with two plants should allocate production between the two plants so that:
   a. $MR = MC_1 = MC_2$. d. $MR = AC_1 = AC_2$.
   b. $MR = MC_1 + MC_2$. e. none of the above.
   c. $MC_1 = MC_2$.

20. In the long run, it is quite likely that a pure monopoly firm will:
   a. make a normal profit. d. all of the above.
   b. make an economic profit. e. only a and b above.
   c. experience an economic loss.

21. A pure monopoly firm will maximize its profit by charging the highest price for its product that it can imagine.
   a. True. b. False.
22. In the case of long-run equilibrium for a monopolistically competitive industry:
   a. \( P = LMC \).
   b. \( P < LMC \).
   c. \( P > LMC \).
   d. \( P = MR_d \).
   e. none of the above.

23. Product differentiation exists only if there are actual differences in the attributes of the products.
   a. True.
   b. False.

24. According to the kinked-demand curve model, an individual firm's demand curve would be highly elastic at:
   a. prices below the going market price.
   b. low levels of output.
   c. prices above the going market price.
   d. high levels of output.
   e. none of the above.

25. In the case of imperfectly competitive product markets:
   a. \( VMP_A = MRP_A \).
   b. \( MR = P \).
   c. \( VMP_A < MRP_A \).
   d. \( VMP_A > MRP_A \).
   e. none of the above.

26. The market demand for input A is a simple summation of the firm's marginal revenue product curves for input A.
   a. True.
   b. False.

27. Where labor markets are imperfectly competitive, it is possible for the labor union to increase both the wage rate and the level of employment.
   a. True.
   b. False.

28. A Pareto optimum is a position that cannot be altered without:
   a. governmental approval.
   b. making someone better off.
   c. making someone worse off.
   d. making someone equally well off.
   e. none of the above.

29. The path of tangencies between isoquants in the Edgeworth box diagram is called a:
   a. transformation curve.
   b. contract curve.
   c. production possibilities curve.
   d. none of the above.

30. A key to problem area in welfare economics is that there is no scientific way to:
   a. measure the impacts of externalities.
   b. make interpersonal comparison if utility.
   c. measure individual wealth.
   d. measure the impacts of government "welfare" programs.
   e. none of the above.
31. The __________ states that an economic change is desirable if individuals who gain from the change can make up for the losses of the losers and still be better off than in their initial position.

a. reciprocity principle.  
d. quid pro quo principle.
b. compensation principle.  

Glossary of Abbreviations and Symbols*

AC, AFC, ATC, AVE  
average cost, average fixed cost, average total cost, average variable cost

AP, APP  
average product, average physical product

B.L.  
budget line

C, Cr  
cost or consumption, consumer
c.p.  
ceteris paribus
c.  
circa or about
cf  
compare
d, D  
demand
e  
elasticity or equilibrium

E, N  
employment
f, F  
factor, input, resource
FE  
full employment
I  
investment or input, factor, resource, indifference curve or isoquant
I., C., i.c.  
imperfect competition
K  
capital
L.l  
labor
LR  
long run
m, M  
imports, monopoly, monopolist
mc  
monopolistic competition
MC  
marginal cost
MFC, MIC  
marginal factor cost, marginal input cost
MP, MPP  
marginal product, marginal physical product
MR  
marginal revenue
MRP  
marginal revenue product
MU  
marginal utility
N, E  
employment
N, Q_n  
quantity hired, demanded, supplied (L)
O, o  
oligopoly or output
p, P, P_P, P_o, P_s, P_i  
price, price of product, price of other goods, factor price
pc  
perfect competition
PPB, PPC, PPF, PTC, PTB  
production possibility boundary, curve or frontier, production transformation curve or boundary
r  
rent
q_d, q_s, Q_d, Q_s, q  
quantity demanded, quantity supplied, quantity
s, S  
supply
S-E  
substitution effect
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<th>Abbreviation</th>
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<td>short run</td>
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<td>total revenue or total expenditures (PxQ)</td>
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<td>utility of union</td>
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<td>unE, unN</td>
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<td>\</td>
<td>therefore</td>
</tr>
</tbody>
</table>

* This list is not all-inclusive; other abbreviations will be identified and used in class also.