INTERMEDIATE MICROECONOMIC THEORY (ECON 3070-010)
Department of Economics, University of Colorado
Fall 2018

Professor: Charles de Bartolome   Recitation instructor:
Office hours: M 2:00-2:50 pm; Tu 1:30-2:30pm   Recitation time:
                       F 9:00 - 9:40 am.   Recitation place:
Office: Econ 203.   Recitation office hours:
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Textbook: Austan Goolsbee, Steven Levitt and Chad Syverson, (2016), *Microeconomics*
                       (2nd Edition) WITH LAUNCHPAD ACCESSS. Worth Publishers.

                       Buying textbooks is expensive. I do not recommend that you buy the textbook and
                       LaunchPad access separately. It is almost-always much cheaper to buy a bundle of
                       the textbook plus Launchpad access. I have negotiated with Worth Publishers for
                       a competitive price, so I recommend that you buy the bundle at the CU Bookstore.

                       When you have bought the textbook with LaunchPad access, you need to register
                       your LaunchPad access code WHILE INSIDE the course's website on Desire-2-
                       Learn. Do NOT register your code on the MacMillan website.

                       For instructions on how to register the access code within Desire-2-Learn:
                       Go to the course website on Desire-2-Learn.
                       Click on Content, then on the module: LaunchPad/LearningCurve. Then click on
                       the submodule Registration Instructions.
                       Then click on the file: "Launchpad Registration Instructions". This brings up an
                       information page.
                       On this page is a heading: "Connecting BrightSpace/D2L and LaunchPad Accounts."
                       Beside the first bullet-point is: "Watch this video". Click on the video.

LaunchPad: Each student must enroll in LaunchPad which contains two electronic learning
                       systems: (1) LaunchPad is a set of weekly problems on the material covered in
                       class in the previous week and (2) LearningCurve is a weekly assignment which is
                       designed to encourage you to read the material before class. Both activities are
                       graded.

                       LaunchPad problems are posted on Thursdays at 4pm and are due on the
                       following Monday at 10am. The first LaunchPad quiz is for practice only and is
                       due at 10am on Monday 3 Sept. The first Launchpad quiz which is graded is due
                       at 10am on Monday 10 Sept.

Learning Curve assignments are posted on Thursdays at 4pm and are due on the following Wednesday at 10am. The first LearningCurve quiz is for practice only and is due at 10am on Wednesday 5 Sept. The first Learning Curve quiz which is graded is due at 10am on Wednesday 12 Sept.

"*Clickers*"   Each student must buy a *i>clicker*. If you do not already own one, an *i>clicker* may be purchased at the University of Colorado bookstore. Clickers will be used to promote faculty-student interaction. They will also be used to give class problems which will be scored.

Clickers must be registered at: https://myCUinfo.colorado.edu .
Register using your Identity Login (*not* your student ID).

Course description:

The course's primary goal is to prepare students with the basic tools used in the 4000-level courses. It presents the material by considering the different stages of economic development. The decisions by households of how hard to work and which goods to buy are presented in an undeveloped economy. A firm is then posited to discover a production process and to become a monopoly: its pricing decisions are discussed. The monopoly's profits induce entry and the industry becomes an oligopoly. The interaction between the firms is used as a tool to present game theory. As more firms enter, the industry becomes competitive. The welfare consequence of the different industry structures are discussed.

Course Level:

The course builds on the material presented in the Principles of Microeconomics (ECON 2010), covering the material at a more advanced level. The basic relationships are developed graphically and using calculus.

Pre-requisites:

ECON 2010 (Principles of Microeconomics);

AND

EITHER ECON 1088 OR MATH 1081 OR MATH 1300 OR MATH 1310 OR APPM 1350 (all min grade C-).

Students must have at least 22 credit hours completed.

Course assignments and Desire2Learn webpage:

> All course assignments and most lecture notes are posted on the Desire2learn course webpage located at: https://learn.colorado.edu
>
> Please note that six pages of each Adobe Acrobat file can be printed on a single sheet by clicking as: download $>$ = $>$ download $>$ show in folder $>$ print $>$ multiple $>$ 3 x 2, landscape

Attendance at class:

> Woody Allen once remarked: "90% of success is just turning up". The best way to learn the material is to attend class. Reading the lecture notes posted on the web is not a good substitute for attendance. Attendance at class is therefore required.

Administrative Drop:

> Because attendance is important and is expected, I will drop from the class any student who neither attends two of the first three classes of the term nor gets special permission from me for his/her absence.

Recitations: Recitations start w/c 3 September. For w/c 3 September *only*, if your recitation is on Monday, please attend the Wednesday recitation (9-9:50 am in ECON 119)

> The recitations are an integral part of the course and therefore attendance at recitation is required. Recitations will go over the weekly problem set.
>
> The weekly problem set is posted on the Desire2Learn webpage. Before the recitation, you must attempt to work through the weekly problem set. The recitation reviews the problem set.
>
> The weekly problem set is designed to present problems at a deeper level than the LaunchPad quizzes. The format of the exams will be closer to the format of the weekly problem set than to the LaunchPad quizzes.

Grading: There are two midterm exams, a final exam, in-class clicker questions, assignments associaated with LaunchPad, and recitations. The grade of the student will be determined as:

22%	First Midterm,
26%	Second Midterm,
27%	Final
8%	In-class clicker questions
8%	LaunchPad/Learning Curve quizzes
9%	Recitations

Concerning in-class clicker questions. I use clicker questions to reinforce the main point of a lecture. A correct answer receives 1 point and an absence or an incorrect answer receives zero points.

In calculating your total score for all in-class clicker questions, I will sum your scores for all days, omitting your three lowest daily scores.

Concerning recitations: At the recitation, you are required to hand in an answer to the Problem Set which show evidence of effort (your answer need not be correct). If you are present and if your answer shows evidence of effort, you will receive a score of 1 for that week. If you are not present at the recitation and do not hand in an answer, you will receive a score of zero for that week. Your recitation leader will determine how you will be treated if (1) you are present but the answer which you hand in shows no evidence of effort or if (2) you are not present but submit in advance to your recitation leader an answer showing evidence of effort. You may not ask somebody else to hand in an answer on your behalf.

In calculating your total score for recitations, I will omit your two lowest weekly scores.

Exams: The two midterms will be given in the evening as:

> FIRST MIDTERM: Monday 24 September, 7 - 9pm.
> Location:

> SECOND MIDTERM: Monday 29 October, 7 - 9pm.
> Location:

The final exam will be held as:
> FINAL: Saturday 15 December 4:30 - 7:00 pm
> Location: GUGG 205

You must bring three blue-books to each exam.

Failure to be present at an exam:
> If you fail to be present at an exam (unless you are ill and have a medical note from your doctor, or unless before the exam I have granted you permission to take a make-up exam), you will earn a score of 0 in the exam.

Classroom courtesy:
> Please turn your cell 'phone off prior to the start of class.

> I believe that learning is enhanced if there is full concentration by both the instructor and the student. Therefore, usage of laptop computers in class is restricted to following the course notes. To facilitate this, laptops may only be used in the front two rows of the classroom.

Drop-in Tutorial Lab:

> The Department of Economics provides a free drop-in tutorial lab for undergraduates enrolled in Economics 3070 and other courses. Information about the lab is available at:
> www.colorado.edu/Economics   > undergraduate > drop-in tutorial lab

Tutors:

> The Department of Economics keeps a list of tutors. Please contact the department's Main Office if you would like to review the list. The Main Office is in Room 212 in the Economics Building.

Using Clickers:

> You get a green light when your answer is registered. If you get a red light, your clicker is not registering and your score is automatically zero.
>
> I consider it cheating if a student uses another student's clicker.

Accommodations for students with special needs:

> If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website (www.colorado.edu/disabilityservices/students). Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance.
>
> If you have a temporary medical condition or injury, see Temporary Medical Conditions under the Students tab on the Disability Services website and discuss your needs with your professor.

Religious Observances:

> Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, please let me know in a timely manner if one of the exam dates or dates on which an assignment is due falls on a religious holiday you intend to observe and I will arrange for you to take a make-up. See policy details at: http://www.colorado.edu/policies/fac_relig.html

Classroom Behavior:

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. For more information, see the policies on classroom behavior and the Student Code of Conduct. See policies at http://www.colorado.edu/policies/student-classroom-and-course-related-behavior And at: http://www.colorado.edu/osccr/

Academic Integrity:

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the academic integrity policy. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, resubmission, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code Council as well as academic sanctions from the faculty member. Additional information regarding the academic integrity policy can be found at the Honor Code Office website.

Discrimination and Harassment Policy:

The University of Colorado Boulder (CU Boulder) is committed to maintaining a positive learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct, discrimination, harassment or related retaliation against or by any employee or student. CU's Sexual Misconduct Policy prohibits sexual assault, sexual exploitation, sexual harassment, intimate partner abuse (dating or domestic violence), stalking or related retaliation. CU Boulder's Discrimination and Harassment Policy prohibits discrimination, harassment or related retaliation based on race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. Individuals who believe they have been subject to misconduct under either policy should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127. Information about the OIEC, the above referenced policies, and the campus resources available to assist individuals regarding sexual misconduct, discrimination, harassment or related retaliation can be found at the OIEC website.

Course outline:

A list of topics to be covered and likely dates is shown on the next pages. This is an provisional plan. Topics may take more or less time than estimated in this plan.

COURSE OUTLINE

Date	*Topic*	*Section*
27 Aug	INTRODUCTION	1.1, 1.2
	Scarcity and Markets	pp. 11-12
	Normative and Positive	
29 Aug	REVIEW	2
	Rationality	
	Marginal Analysis	
	Decision-Making using Marginal Analysis	
	Use of Models	

1. HOUSEHOLDS

31 Aug, 5, 7 Sept	REPRESENTING TASTES	
	Utility	4.1
	- marginal utility	
	- diminishing marginal utility	
	Indifference Curves	4.2
	- marginal rate of substitution	
	- bowed-in	
	Ordinal or cardinal?	
	Substitution and Income effects	
	New Welfare Economics	
10 Sept	BUDGET LINE	4.3
12 Sept	CHOICE AND QUANTITY DEMANDED	
	Review: Rationality	
	Individual consumer choice	4.4, 4.Appendix (pp. 147-149)
	- rule: "marginal rate of substitution = good price ratio"	

14,17,19 Sept	COMPARATIVE STATICS	5.1
	Income changes	
	- income expansion path	
	- normal and inferior goods	
	Price changes	5.2
	Individual demand curves	
	Income and substitution effects	5.3
	Changes in price of other goods	5.4
	Market demand curve	5.5

21 Sept	LABOR CHOICE	
	Labor Supply	13.2
	Savings	

24 Sept	In-class Review
	7-9 pm FIRST MIDTERM

26,28 Sept, 1 Oct	VALUING GOODS MARKET ACTIVITIES	
	Individual Benefit	3.1
	Marginal Benefit	
	Marginal benefit curve ≡ Individual demand curve	
	Net Benefit from Buying ≡ Consumer Surplus	
	Society's Marginal Benefit	
	Marginal Social Benefit Curve ≡ Market Demand Curve	
	Society's net benefit from buying	

3, 5 Oct	VALUING LABOR MARKET ACTIVITIES
	Individual's marginal cost of labor
	Individual's marginal cost of labor ≡ individual's labor supply curve
	Individual's net benefit from working
	Society's Marginal Cost of labor
	Social Marginal Cost Curve ≡ Market labor supply curve
	Society's net benefit from working

2. FIRMS

8, 10, 12 Oct	PRODUCTION	
	Production Function	6.1, 6.2, 6.3
	- marginal product	
	- diminishing marginal product	
	Iso-quant	6.4 (pp. 210-214)
	Marginal rate of technical substitution	
	Returns to scale	6.5
	Short-run and long-run	6.2
	Short-run production	6.3

15 Oct	CHOOSING INPUTS AND COST	
	Isocost line	6.4 (pp. 214-216)
	Choosing input mix	6.4 (pp. 217-222), 6.Appendix (pp 239-242)
	- rule: "marginal rate of technical substitution = input price ratio"	
	Comparative Statics	
	- wage change	
	- output change	
	- technology change	6.6

17, 19, 22 Oct	SHORT-RUN AND LONG-RUN COST	
	Total Cost Curve	6.7
	Fixed Sunk and Variable Cost	7.1, 7.2, 7.3
	Marginal and Average Cost	7.4
	Short-run and Long-run cost relationship	7.5

24 Oct	PROFIT	
	Accountant's, Managers' and Society's Profit	

3. "MARKET" INTERACTIONS: HOUSEHOLDS AND FIRMS TOGETHER

26 Oct	THE BENCHMARK	
	Producer Surplus	3.1
	Net Benefit Created = Consumer Surplus + Producer Surplus	
	The Planner	

29 Oct	In-class review
	7 - 9 pm SECOND MIDTERM

31 Oct, 2 Nov	THE BENCHMARK (Cont)
	Maximum Possible Net Benefit Created (Efficiency)
	Equity concerns

5,7, 9, 12 Nov	"MARKET" IS MONOPOLY	
	Market Power	9.1
	Marginal revenue	9.2, pp. 372-373
	- downward sloping	
	Choosing quantity to maximize profit	9.3, pp 371
	- rule: "marginal revenue = marginal cost"	
	Comparative statics	9.4
	Well-being lost with monopoly	9.5
	Barriers to entry	
	Government regulation	9.6

14 Nov	STRATEGIC ANALYSIS: GAME THEORY	
	Game	12.1 (pp. 466-467)
	Extensive Form	
	Information Set	
	Strategy	
	Normal Form	

16 Nov	No class

26 Nov	STRATEGIC ANALYSIS: GAME THEORY (cont)	
	Nash Equilibrium	12.2 (pp. 469-475)

28, 30 Nov	"MARKET" = DUOPOLY	
	Cournot Quantity Competition	11.3
	Welfare properties of duopolistic markets	

3, 5 Dec	"MARKET" = OLIGOPOLY AND MARKET ENTRY	
	Perfect competition as a sequence of successful entries	
7 Dec	"MARKET" = COMPETITIVE MARKET	
	Price-taking	8.1, 8.2
	Firm's choice of quantity to maximize profit	
	- rule: "marginal cost = price"	
	Short-run: fixed number of firms	2.3, 2.4, 8.3
	Short-run supply curve	
	Short-run equilibrium	
	Short-run producer surplus	
	Long-run: firms enter and exit: firm number variable	8.4
	Long-run equilibrium	
	Long-run supply curve	
	Long-run producer surplus	
10 Dec	NORMATIVE PROPERTIES OF COMPETITIVE EQUILIBRIA	
	Why are long-run competitive equilibria so good.	
	First Fundamental Welfare Theorem.	
12 Dec	LABOR MARKETS	
	Demand for labor	
	- rule: "VMPL = wage"	
	Consumer and producer surplus in competitive market	
15 Dec	4:30 - 7:00 pm: FINAL EXAM in GUGG 205	