ECONOMICS 4010-090
Intermediate Microeconomics
Fall 2017
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https://faculty.utah.edu/u0886023-JOYITA_ROY_CHOWDHURY/teaching/index.hml
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COURSE DESCRIPTION:
We will study neoclassical principles of resource allocation. Topics include the theory of consumer choice, the theory of the firm, introduction to general equilibrium and welfare economics, and the theory of market structures. The prerequisites for this course are: College Algebra and Econ. 2010, 2020 and 3620, or instructor's consent. This class is designated as "Quantitative Intensive" ("QI") for the purposes of fulfilling the university's QI requirement. VIDEOS: The main way for you to learn the material in this course is to view the videos on the class web site, under its "Videos" link. The textbook is secondary in importance to the videos.

TEXT:
Intermediate Microeconomics and Its Application. You may use either:
_ the 11th edition, byWalter Nicholson and Christopher M. Snyder, ISBN 143904404X.
--or the 10th edition, byWalter Nicholson and Christopher M. Snyder, ISBN 0324319681
--or 9th edition, by Walter Nicholson, ISBN 0324171633

We will not use the computer disk which may be included with the book. In my opinion, for the purposes of this class, the 9th and 10th editions are just as good as the 11th edition. The earlier editions are available at lower prices on the internet than the current edition. The bookstore has the text book available with ISBN 9781133189022. But it would not stock the earlier editions, you will have to buy your older editions elsewhere. Do not get Nicholson's other textbook, called "Microeconomic Theory: Basic Principles and Extensions." That is a master's level book. Just make sure the title of the book you buy has "Intermediate" as its first word.

In addition: old exams from this class, answers to old exams, answers to homework problems, and a small packet of class handouts can all be found by going to www.economics.utah.edu/lozada and clicking on "Econ. 4010." Your exams will come from the material there—usually but not always unaltered—so it is very important that you study it. As the semester goes on, I will keep you up to date on where you should be in studying this material. Before each exam, be sure you can thoroughly answer the questions covered in the material without looking at the answers. A word of warning: The only way to succeed in this

class is for you to have the self-motivation and discipline to keep up with this online material, not just with the online lectures.

Online classes in general put large demands on students' self-motivation and discipline, and that is even more true in this class because there are no weekly quizzes or multiple choice homework problems.

GENERAL COURSE OBJECTIVES:
The major objective is for you to fully understand the derivation of neoclassical demand and supply curves from first principles, understand market equilibrium, and understand the optimality (or lack thereof) of different types of market structures. A minor objective is for you to gain some familiarity with the most important critiques of neoclassical microeconomic theory.

After all, as British economist Joan Robinson once wrote (Collected Economic Papers, 1980, Vol. 2 p. 17): "The purpose of studying economics is not to acquire a set of ready-made answers to economic questions, but to learn how to avoid being deceived by economists."

COURSE WORKLOAD:
This is a 3 credit hour course. According to the University of Utah's Policy 6-100 III Sec. C6, "at the University of Utah we assume that there is at least one hour in class and two hours outside of class per week [or the equivalent combination] connected to every credit hour" (brackets added). So you should expect to study for Econ. 4010 about 6 hours outside of viewing lectures every week.

Most students find Intermediate Microeconomics the hardest economics class in the undergraduate curriculum. The reason is that this class stresses deep understanding of detailed, even mathematical, issues. In principle it would be possible for a student who did nothing but listen to my lectures to make an 'A' in this class, just like in principle a student could become a structural engineer after a 60-minute lecture on Newton's three laws of motion, because the rest just logically follows. In practice, it takes very many hours, working problem after problem after problem, in order for most students to realize what all the implications of the basic concepts are. Once you do that, you'll realize that all you have to memorize are the basic principles, because you can construct an answer to any question just from those. In the same way, an experienced structural engineer realizes that all there is to making sure a bridge stands up is applying Newton's Laws.

Another analogy is that my lectures about economics are like a swimming instructor's lectures about how to swim. Lectures about how to swim are useful, but you do not learn how to swim unless you get in the water and do it—eventually, all by yourself. Lectures about economic theory are useful, but you do not learn economic theory unless you can open a set of problems and work them—eventually, all by yourself. You will be a dismal failure at swimming if you try to learn how to do it just by memorizing, and you will be a dismal failure at economic theory if you try to learn how to do it just by memorizing, too. The instructions to my exams say, in part, that "**correct answers which are unsupported by explanations will not be awarded points.**" Students often wonder how much explanation they should put in their answers. A rule of thumb is that you do not have to explain things you knew before you started taking this class. For

example, you do not have to explain why $x^2 = y + 1$ would imply that x $= \pm\sqrt{y + 1}$. On the other hand, you do have to explain everything you learned since you started taking this class.

Here is an example. I asked this question on an exam:
Trapper Joe, the fur trader, has found that his production function in
acquiring pelts is given by
q $= 2\sqrt{H}$
where q = the number of pelts acquired in a day and H = the number of
hours Joe's employees spend hunting and trapping in one day. Joe pays his
employees $8 an hour.

Calculate Joe's total cost curve (as a function of q).
A student wrote down "total cost is $2q^2$." This is the right answer, but it was completely unexplained, so the student did not get credit for it. He told me later he felt the answer was "obvious," and so did not have to be explained. It was not obvious to most of his classmates (who got it wrong); is it obvious to you right now? (I suspect it was not even obvious to the student; he probably guessed the answer by working out a few test cases, and could not figure out the actual derivation.) The nice thing about my way of grading is that you can get lots of partial credit for your response even if you cannot arrive at the right final answer. This can increase your grade significantly. In fact, you can get full credit on a problem even if its final answer is wrong, if I can see that what made your final answer wrong was that you made an inadvertent mistake about something you really do know (such as writing $4 \times 2 = 6$). This is another reason to show all your work.

MY BACKGROUND
Web: https://faculty.utah.edu/u0886023-JOYITA_ROY_CHOWDHURY/teaching/index.hml

OFFICE HOURS:
My office hours this semester will be by appointment. Please send me a short email to agree upon a specific time and day. I'll be happy to answer any of the questions you might have.
Email: joyita.roychowdhury@economics.utah.edu
        joyita.rc2006@gmail.com
Office: Building 72, Desk#14

EXAMS:
There will be two exams during the semester and a final exam at the end of the semester. The exams are not computerized; they are paper-based, and they will be proctored, as described at http://tlt.utah.edu/student-exam-information/

Students have a window of time during which they can take the exams: September 26-28 (Tuesday–Thursday) for Midterm Exam 1, November 7-9 (Tuesday–Thursday) for Midterm Exam 2, December 11-14 (Monday-Thursday) for the Final Exam.

Not all hours of those days are available, and **at least two weeks before each exam, you have to register online to take it following the instructions on the web page given two sentences ago**. That web site explains that students who are able to travel to Salt Lake City will reserve a time to take their exams at the UOnline Center Examination Lab. Such students must read http://tlt.utah.edu/uonlinecenter/ to learn that center's rules. One of the rules is that if you are more than a few minutes late, you will have to reschedule, although you will not be required to wait two weeks. Another of their rules is that if you forget your University of Utah Identification Card, you will not be allowed to take the exam. The Center has other rules posted on the web page just given, which you should read; otherwise you will not know what rules you have to obey.

In addition, they have a new rule that is not on their web page:
Students are required to hang any backpack, bag or purse on a hook on the back of their chairs. Only exam-related materials will be allowed on the desktop during examinations. All other materials and personal items must be placed in their bags, no exceptions. The center will provide a bag for students who do not have other means to store their personal items.

Students unable to travel to Salt Lake City will make other arrangements, as described at the first URL given in this paragraph. You should bring a blue book to exams, although it is also acceptable to bring blank sheets of paper. You may use a calculator, but only a simple one; it should not be able to graph or store text. You should bring sufficient writing instruments so that if they suffer some malfunctions you can still complete the exam. No other material may be used during an exam. After you have taken the exam, do not give any information about it to any other student in the class until the exam testing window has closed. After the exam testing window has opened but before you have taken the exam, do not receive any information about the exam.

GRADING:
Exams 1 and 2 will each be worth 25 points. The Final Exam will be comprehensive and will be worth 50 points. At the end of the semester, your course grade will be based on the sum of the grades you have made on the three exams. It will not be based on anything else: there is no way to do "extra work" at the end of the semester to raise your grade.
Grades will follow an absolute scale as shown:

$A \geq 93\%$

$93\% > A- \geq 90\%$

$90\% > B+ \geq 87\%$

$87\% > B \geq 83\%$

$83\% > B- \geq 80\%$

$80\% > C+ \geq 77\%$

$77\% > C \geq 73\%$

$73\% > C- \geq 70\%$

$70\% > D+ \geq 65\%$

$65\% > D \geq 60\%$

$60\% > D- \geq 50\%$

$50\% > E$

POLICIES:

1. Cheating on exams and other forms of academic dishonesty may lead to expulsion from the class, failure of the class, or more severe penalties such as dismissal from the University. In accordance with University regulations (University Policy 6-400, Section V, B, 4, at, if you are caught cheating in this class, I must send a letter to your dean about that, and the letter will be put in your permanent University file. I punish cheating quite severely.

2. You cannot miss an exam and take a makeup exam unless I give you permission to do so. Without my permission, you will earn a zero on any exams which you miss. To get my permission to take a makeup exam, you must give me notice before the class takes its exam (if at all possible), and before you take the makeup exam, you must supply written evidence of your reason for missing the in-class exam. If the reason is illness, a note from a doctor will be sufficient. I will let you know if I think your reason is good enough to warrant letting you take a makeup exam. If your reason is that you are participating in a university sponsored activity, I will always allow you to take a makeup. Otherwise, I will make the decision on a case-by-case basis.
In addition, there are limited circumstances in which I may let you take an exam early.
I will only give a makeup final if:
(a) You are very ill. You must be under a physician's care for this condition, and you must supply a note from your physician stating that it is his/her opinion that you were too ill to take the exam at its regularly scheduled time.

(b) An immediate family member is very ill and you have a very good reason why this prevents you from attending the final. I will be the judge of whether your reason is good enough. I will require a note from your family member's physician verifying your story about the illness.

3. Incompletes will be given only for reasons of illness or a family emergency. You must supply written evidence for the reason. According to university regulations (Policy 6-100 III G2 at http://regulations.utah.edu/academics/6-100.php, you must be passing the class at the time you get an incomplete.

4. All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, available at http://regulations.utah. edu/academics/6-400.php. Students have specific rights in the classroom as detailed in Section II of the Code. The Code also specifies proscribed conduct (Sections III and V) that involves cheating on tests, plagiarism, collusion, fraud, theft, etc. Students should read the Code carefully and know they are responsible for the content. Students have the right to appeal sanctions imposed under the Code to the Student Behavior Committee.

5. The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Union Building, 801-581-5020 (V/TDD), http://disability. utah.edu/. CDS will work with you and me to make arrangements for accommodations.

SCHEDULE:

The exam dates below are definite, but the other dates are just suggestions about when you should study what. Text in braces, like this {}, pertains to the 11th edition of the textbook; text in brackets, like this [ ], pertains to the 10th edition of the textbook; and text not in brackets pertains to the 9th edition. If there are no brackets or braces, the numbering is the same as the 9th edition.

8/21, 8/23: Mathematics. Appendix to Chapter 1
8/28, 8/30: The Theory of Choice. Chapter 2
9/6, 9/11: Changes in Income and Prices. Chapter 3
9/13, 9/18: Market Demand and Elasticity. Chapter 4{3}
9/20, 9/25: The Technology of Production. Chapter 5[7]{6}
9/26–9/28: Exam on demand (the chapters before 5[7]{6}; A/B/C/D
in old exam packet)

10/2, 10/4, 10/16: Cost Functions. Chapter 6[8]{7}
10/18, 10/23, 10/25, 10/30: Profit. Chapter 7[9]{8} (flat MR)
11/1, 11/6: Competitive Equilibrium. Chapter 8 (253–267 only) [10,
297–309] {9, 303–316}.
Tax Incidence. Chapter 9 (293–297) [11 (333–339)]
11/7 – 11/9: Exam on supply (Chapters 5/6/7 [7/8/9] {6/7/8}; F/G/H
in old exam packet)

11/13, 11/15: Monopoly. Chapter 10 (not 351 ff.) [13 not 398ff.] {11 not
397ff.}, rest of Chapter 7[9]{8}.
Consumer and Producer Surplus. Chapter 9[11]{9}
(284–291)[325–331]{324–330}
11/20: Input Markets. Chapter 13[15]{13}
11/22, 11/27, 12/4, 12/6: Dynamic Economics. Chapter 14[16]{14} & its appendix.
The Edgeworth Box. Pp. 324–328 [363–367] {360–364}
12/11–12/14: comprehensive Final Exam

Supplemental Information

COURSE OVERVIEW:

We will first study how to sketch the graph of a function's average and of its marginal. Next, neoclassical consumer theory (utility maximization subject to budget constraints). The middle part of the course is a very careful study of the neoclassical theory of the firm: total product curves (& their averages and marginals), total cost curves, both in the short run and in the long run (& their averages and marginals), total revenue curves (& their averages and marginals), and total profit curves (& their averages and marginals). After this comes single-market equilibrium (competitive and monopolistic), and an application to tax incidence. The course ends with an introduction to general equilibrium and welfare economics using the Edgeworth-Bowley Box.

SPECIFIC COURSE OBJECTIVES:
In particular, students should learn to do the following.

1. Given only a sketch of the graph of a function f (x), sketch the graph of its average and of its derivative (its "marginal"), as a function of x. Also, be able to do this even when the function (f) is not everywhere differentiable (so one can discuss income tax "brackets").

2. Given only a sketch of the average and marginal of f (x), sketch the graph of f (x) itself.

3. Identify and construct convex and concave functions.

4. Draw indifference curves for monotonic and non monotonic preferences, and identify the Marginal Rate of Substitution of these curves.

5. Draw budget constraints (both linear and nonlinear) given an explicit or implicit algebraic description of them.

6. Having drawn both indifference curves and budget constraints, show the utility maximizing point (both for interior and boundary maxima).

7. On such a graph, illustrate the effect of changes in prices or income (sketching income expansion paths, from there sketching Engel curves and identifying inferior and normal goods and the income effect; and sketching price-offer curves, and from there identifying complements, substitutes, Giffen goods, and the substitution effect). Apply this to lump sum versus ad valorem taxation.

8. Aggregate individual demand curves and calculate and interpret their own-, cross, and price-elasticities.

9. Explain neoclassical production functions, draw their isoquants, and both derive and sketch their average product and marginal product curves. In this context, calculate returns to scale, demonstrate the Law of Diminishing Returns, and explain why returns to scale are unrelated to diminishing returns. Calculate Rate of Technical Substitution.

10. Explain capital aggregation problems and the importance of this critique for neoclassical production theory and for its non-neoclassical alternatives.

11. Derive the sketch of the total cost, average cost, and marginal cost functions, both in the short run (for the cases when diminishing returns begin immediately and when diminishing returns do not begin immediately) and in the long run (for the cases of increasing-, constant-, decreasing-, and first-increasing-and-then decreasing returns to scale). In the short run, identify and graph total, average, and marginal fixed cost and total, average, and marginal variable cost.

12. Graphically derive the cost-minimizing point from a derivation of the firms's isoquants and isocost curves.

13. Explain the idea of perfect competition.

14. Graph total revenue, average revenue, and marginal revenue curves for competitive firms.

15. Identify profit both on graphs of total revenue and total cost, and on graphs of average and marginal revenues and costs (both in the long run and in the short run). Identify the profit-maximizing level of output on these graphs.

16. Explain the implications of U-shaped average cost curves on existence of a competitive equilibrium.

17. Locate the incidences of a tax on a "supply and demand" diagram.

18. Explain and graph the profit-maximizing quantity for a monopolist. Contrast this with the competitive equilibrium. Also discuss the welfare consequences of monopoly, using consumer surplus, producer surplus, and social surplus.

19. For input markets, generate the total expense, average expense, and marginal expense curves; the marginal revenue product curve; and the profit-maximizing input demand. Do this both for competitive input markets and for monopsonists.

Discuss the welfare consequences of monopsony, using rent and the social surplus going to input demanders.

20. Calculate the present discounted value of a cash flow and use it to make intertemporal decisions.

21. Draw and explain Edgeworth Boxes, then use them to analyze Pareto Optimality and the First Theorem of Welfare Economics. Explain the limitations of Pareto Optimality as a guide to policy.

22. Understand the caution that most attempts by U.S. textbooks to connect these topics to "real life" advance a particular ideological and political viewpoint, and because of the narrow assumptions required for the analyses taught in this class to be valid, most of those attempts are incorrect because the required technical assumptions fail to hold. Illustrate this with timely examples generated in collaboration with students.

CSBS EMERGENCY ACTION PLAN

BUILDING EVACUATION

EAP (Emergency Assembly Point) – When you receive a notification to evacuate a building either by campus text alert system or by building fire alarm, please proceed in an orderly fashion to the EAP designated for that building. Once everyone is at the EAP, you will receive further instructions from Emergency Management personnel. You can look up the EAP for any building you may be in on campus at http://emergencymanagement.utah.edu/eap.

CAMPUS RESOURCES

U Heads Up App: There's an app for that. Download the app on your smartphone at alert.utah.edu/headsup to access the following resources:

- **Emergency Response Guide:** Provides instructions on how to handle any type of emergency, such as earthquake, utility failure, fire, active shooter, etc. Flip charts with this information are also available around campus.

- **See Something, Say Something:** Report unsafe or hazardous conditions on campus. If you see a life threatening or emergency situation, please call 911!

Safety Escorts: For students who are on campus at night or past business hours and would like an escort to your car, please call 801-585-2677. You can call 24/7 and a security officer will be sent to walk with you or give you a ride to your desired on-campus location.

College of
Social and Behavioral Science
THE UNIVERSITY OF UTAH