

## ***BEPP 250 – SPRING 2015***

### ***Managerial Economics***

This course will introduce you to “managerial economics” which is the application of microeconomic theory to managerial decision-making. Microeconomic theory is a remarkably useful body of ideas for understanding and analyzing the behavior of individuals and firms in a variety of economic settings. The goal of the course is for you to understand this body of theory well enough so that you can effectively analyze managerial (and other) problems in an economic framework. While this is a “tools” course, we will cover many real-world applications, particularly business applications, so that you can witness the usefulness of these tools and acquire the skills to use them yourself. We will depart from the usual microeconomic theory course by giving more emphasis to *prescription*: What should a manager do in order to achieve some objective? That course deliverable is to be compared with *description*: Why do firms and consumers act the way they do? The latter will still be quite prominent in this course because only by understanding how other firms and customers behave can a manager determine what is best for him or her to do.

The first major task in the course is the development of the theory of supply and demand underlying the competitive model, which serves as the benchmark for evaluating other market structures. Outside of the purely competitive context, an understanding of demand is essential to many firm decisions including pricing, marketing, and product positioning. The concept of supply and the supply curve provides a valuable framework for thinking about firm costs and investment decisions. After presenting the competitive model, we turn to other market structures more like those encountered by real-world firms such as monopoly and oligopoly. We then investigate the development and use of market power, as well as strategic interaction in both product markets and auctions. Finally, the challenges created by asymmetric information are investigated which have significant implications for behavior and market performance.

**Prerequisites:** Students need to have taken ECON 1 or ECON 10 or its equivalent. Also, you will finally be able to apply the tools you learned in calculus! To assist you in reclaiming a level of comfort in taking derivatives (which you surely had when you took calculus), the first recitation will review relevant mathematical methods, and there will be TAs to assist you throughout the semester. While it may take some time to become accustomed to applying calculus to real-world problems, it actually makes it significantly easier to learn the basic principles of microeconomic theory.

**Textbook:** The textbook for this course is *Intermediate Microeconomics with Calculus* (Norton, 2014) by Hal R. Varian (who is currently Chief Economist at Google). It is available at the Penn Bookstore with its (free) package workouts. Should you order it independently, please pay attention to the ISBNs as they differ for the textbook with and without workouts (even though the price should be the same).

Lectures, recitations, and the textbook strongly complement each other. They are not substitutes so you are strongly advised to draw on all of these resources.

## **Class discussions, emails, and lecture notes**

So, you have a question about the course – a concept, a deadline for a problem set, etc. You have many resources available to you to get the answer. To start, the primary venue for resolving questions will be Piazza. This system is designed to getting you help fast and efficiently from classmates, the TA's, and the Professors. You are encouraged to check Piazza for an answer to your question (for if you have that question, so might other students) and, if it is not there, to then post your questions on Piazza. If you would rather engage in a one-on-one discussion, you can email your query to one of the undergraduate TAs. If the TA feels that discussion would be useful to other students, s/he will post it on Piazza while maintaining your anonymity. Of course, you can also go to the office hours of an undergraduate TA or of your instructor.

The undergraduate Teaching Assistants for the course are:

Alina Fiato ([afiato@wharton.upenn.edu](mailto:afiato@wharton.upenn.edu))

Matt Lesser ([lesserm@gapps.wharton.upenn.edu](mailto:lesserm@gapps.wharton.upenn.edu))

Alex Swick ([swicka@gapps.wharton.upenn.edu](mailto:swicka@gapps.wharton.upenn.edu))

You should feel free to contact them by email with your questions at any time.

The class Piazza page can be found at: <https://piazza.com/upenn/spring2015/bepp250/home>

We will also use Canvas to distribute lecture slides and for other administrative matters. Although there will be some overlap between Piazza and Canvas, please use Piazza for all questions and communications.

**Requirements:** Your grade in the course is based on attendance (5%), problem sets (10%), a midterm exam (40%), and a final exam (45%).

**Problem sets:** Problem sets will be posted on Canvas. They are to be turned in at class and will be returned either at class or recitation. Problem sets are designed to give you practice working on the material and to prepare you for the exams. Though problem sets will largely (though not exclusively) be graded on apparent effort (rather than accomplishment), we strongly advise that you take them very seriously. Think of them as an investment that will yield a return when you take an exam.

**Exam dates:** The midterm exam is scheduled for March 5<sup>th</sup>, 6-8pm and the final exam is scheduled for May 8<sup>th</sup>, 6-8pm. The final exam will focus on material after the mid-term exam. Both exams are “closed book”. We will provide you with a non-programmable calculator for the two exams.

**Attendance:** Attendance (and displaying your name tents) is mandatory and attendance will be recorded within 5 minutes of the start of each lecture. Lectures will have a seating chart so please be in your proper seat on time. In order to avoid the difficult task of assessing what is and what is not an appropriate excuse for missing class while recognizing that there are legitimate reasons for missing class, each student is given a credit of two penalty-free absences which require no explanation for you to use. This should cover religious holidays, illnesses, and other legitimate

reasons for missing a class. Thus, if a student attends at least 23 out of the 25 lectures then s/he will receive a perfect attendance grade. After using up your two penalty-free absences, all subsequent absences will lower your attendance grade. If you do miss a class, you are encouraged to report and explain it using [Course Absence Report](#). CAR is solely for information purposes and its use cannot hurt you (in particular, it will not affect your course grade) and could help you (by keeping Academic & Advising well-informed of any possible problems; remember, they are there to support you).

**Recitations:** Each student must register for a Friday recitation run by a graduate TA. Attendance at recitation is not mandatory but it is highly recommended in the strongest terms. While lectures will emphasize concepts and applications, recitation will focus on problem-solving which is crucial for the exams. The recitations have been designed to engage in “active learning” which means you will work in groups to solve problems with the assistance of the graduate TA. Studies have shown this to be an effective method of learning and it should nicely complement lectures. When it comes to deciding whether to attend recitation, just consider it in cost-benefit terms. If attending recitation allows you to answer just one question on an exam that you would not have been able to answer otherwise, it would be time well-spent in terms of delivering a higher course grade.

**Ethics:** You are expected to review and abide by the University of Pennsylvania’s Code of Academic Integrity. Violations of the code carry serious sanctions. The faculty will turn all cases of code violations over to the Office of Student Conduct and reserve the right to impose additional sanctions, including a failing grade for the assignment/exam and the course.

**Electronics:** Checking your smartphone, tablet, laptop, smartwatch, or any other device that connects you to the world outside of the classroom is not allowed unless an exception is made in association with some classroom activity.

**Re-grading Policy:** Grading mistakes are rare, but they can occur. In the event that you believe your test has been graded incorrectly, please follow the steps below:

- 1) Go home from class and read the answer sheet posted on Canvas carefully. Take at least 24 hours to think about the answers before submitting a re-grade request.
- 2) If you do submit a request, submit it in writing on a separate piece of paper and attach that sheet to your exam. **Do not write on the exam.** Additionally:
  - a) For each part of the exam that you think was mis-graded, give a written explanation of your view.
  - b) You must ante up one exam point. You get that point back only if your complaint is judged to have merit. Otherwise, you lose the point.
  - c) You must submit the entire original exam (not just the question(s) you wish to have re-graded). Your score could go down or up as a result of re-grading.
  - d) We reserve the right to re-grade the whole exam (even questions not requested for a re-grade).

**Missed exams:** Students are expected to attend the mid-term and final examinations. A missed exam will be assigned zero points, unless the student has a medical or personal emergency or some unavoidable school-related conflict that is recognized and excused by a student's instructor. In all cases, a student must make a request for an excused absence to the BEPP course administrator. We ask students to provide appropriate documentation. Conflicts with other exams will be dealt with on a case-by-case basis. In case of a conflict, a student is required to notify us of the conflict **at least two weeks prior to the exam date.**

A make-up exam is usually organized around the date of the main exam. You can only attend it if you have been excused from taking the main exam. As you can imagine, we can only organize one such make-up exam. (For otherwise, where does it all end? A make-up for a make-up for a make-up ...) If you miss both the mid-term exam and the make-up mid-term exam and have been given an excused absence for both, the weight originally assigned to the mid-term exam will be shifted to the final exam which means the final exam will determine 85% of your final grade. For those who miss the final exam and have an excused absence, there will be a make-up final exam in September (or earlier if at all possible).

**Students with disabilities:** Requests for academic accommodations need to be made during the first two weeks of the semester, except under unusual circumstances, to arrange reasonable accommodations. Students must register with Student Disabilities Services (SDS) for disability verification and for determination of reasonable academic accommodations.

### BEPP 250 Spring 2015 Schedule

Lectures	M/W	T/Th		Problem Set Due	Assigned Readings
Lecture #1	01/14	01/15	Introduction		1
MLK Holiday	01/19	01/20	NO CLASS		
Lecture #2	01/21	01/22	Consumers: Preferences		2, 3.1-3.4
Lecture #3	01/26	01/27	Consumers: Choice	PS#1 assigned	3.6, 4.1-4.5
Lecture #4	01/28	01/29	Consumers: Demand		5.1-5.4, 15
Lecture #5	02/02	02/03	Firms: Production	PS#1 due	19
Lecture #6	02/04	02/05	Firms: Cost	PS#2 assigned	21, 22
Lecture #7	02/09	02/10	Firms: Profit-maximization		23
Lecture #8	02/11	02/12	Competitive Markets: Equilibrium	PS#2 due	14.1-14.7, 14.9-14.10, 16, 24.1-24.2
Lecture #9	02/16	02/17	Trading Pit Experiment		
Lecture #10	02/18	02/19	Monopoly: Pricing	PS#3 assigned	25
Lecture #11	02/23	02/24	Monopoly: 3 <sup>rd</sup> Degree Price Discrimination		26.1-26.6
Lecture #12	02/25	02/26	Monopoly: 2 <sup>nd</sup> Degree Price Discrimination	PS#3 due	
Lecture #13	03/02	03/03	Monopoly: Price Discrimination & Bundling		
Lecture #14	03/04	03/05	<b>MID-TERM EXAM, 03/05, 6:00-8:00pm</b>		
Spring Break	03/7 - 03/15	03/7 - 03/15			
Lecture #15	03/16	03/17	Imperfect Competition: Game Theory		29.1-29.4, 30.1-30.4
Lecture #16	03/18	03/19	Imperfect Competition: Game Theory	PS#4 assigned	29.7-29.8, 30.6
Lecture #17	03/23	03/24	Imperfect Competition: Price Choice		28.9
Lecture #18	03/25	03/26	Imperfect Competition: Quantity Choice	PS#4 due	28.5
Lecture #19	03/30	03/31	Imperfect Competition: Collusion	PS# 5 assigned	28.10, 29.5-29.6
Lecture #20	04/01	04/02	Imperfect Competition: Collusion		
Lecture #21	04/06	04/07	Uncertainty: Choice	PS#5 due	12.1-12.4, 13.1
Lecture #22	04/08	04/09	Uncertainty: Demand for Insurance	PS#6 assigned	12.5-12.7
Lecture #23	04/13	04/14	Auctions		18.1-18.4
Lecture #24	04/15	04/16	Auctions	PS#6 due	18.5-18.8
Lecture #25	04/20	04/21	Asymmetric Information: Adverse Selection		38.1-38.3
Lecture #26	04/22	04/23	Asymmetric Information: Moral Hazard		38.4-38.8
Lecture #27	04/27	04/28	Review		
	04/29	-	NO CLASS		
			<b>FINAL EXAM, 05/08, 6:00-8:00pm</b>		