



ECON 3010 Intermediate Microeconomics

Time: Tuesday/Thursday, 9:30 AM - 10:45 AM or 11:00 AM - 12:15 PM

Location: Monroe Hall 130

My information: Peter Troyan
Email: troyan@virginia.edu
Office: Monroe 213
Office Hours: Tuesday, 1:15 - 3:00 pm

This syllabus is tentative and subject to change throughout the course. I will notify you if/when changes are made.

Course Description: Microeconomic theory is the study of models economists use to describe how agents (consumers, firms, governments, etc.) make decisions and how these decisions affect market outcomes and welfare. We begin by analyzing how consumers and firms make optimal decisions given the budgetary and physical/technological constraints they face. We then study how these decisions by individuals translate into competitive market equilibria, and look at the conditions under which the “invisible hand” of the market optimizes welfare.

The second half of the class discusses deviations from the competitive ideal. We look at important sources of market failures, including including externalities, market power (monopolies), and asymmetric information. An important tool for economists in analyzing such situations where strategic interactions between people influences outcomes is game theory. The last section of the course will be a basic introduction to game theory and its applications in economics, including imperfectly competitive markets (e.g., oligopolies), public goods, and principal-agent problems.

The course is designed to provide a rigorous introduction to the tools that underly nearly all economic analysis, including many of the upper level applied courses you will take in the future. Many students find this course to be one of the most difficult and time-consuming courses of the major. The best way to succeed in the course is not to fall behind, and to **solve problems**. *This is a problem-solving course*, and the homework is designed to allow you to practice your problem solving skills. The questions on the exams will be in a style similar to those found on the homework. If you *only* read over the textbook and/or lecture notes, I can guarantee that you will *not* succeed in this course. The textbook and the MyEconLab resource (see below) are filled with many more problems than what will be assigned, and I strongly encourage you to use them to practice problem solving and better understand the material.

An important note on the use of mathematics: The course is intended to introduce you to the key tools used in modern economics to explain behavior at the microeconomic level.

These tools are often mathematical in nature, and include graphs, algebra, and calculus. The formal prerequisite is Math 1220 (derivatives in particular will be used extensively throughout the course), but an equally, if not more, important informal prerequisite is comfortability in quickly understanding and drawing graphs and manipulating algebraic expressions. At the same time, the use of math should not obscure from the economics. The focus of the course will be on learning how to analyze a problem economically, and developing your reasoning and problem-solving skills, not blindly applying mathematical formulae. To succeed in the course, you should be comfortable enough with the math (e.g., the material covered in Math 1210/1220) that it operates “in the background” so we can focus on learning the economics.

Textbook: You are not required to buy any textbook for the class, since all material will be covered in lecture. However, if you would like to have a textbook as a reference, the one we will follow most closely is *Microeconomics: Theory and Applications with Calculus*, 3rd Edition, by Jeffrey M. Perloff (older editions should be adequate).

Whether or not you choose to purchase the textbook, you **must** obtain access to MyEconLab (an online resource, see below), as this will be used to submit part of your problem sets. There is a bundled package that includes a copy of the textbook and access to MyEconLab from the bookstore. Alternatively, you can obtain access to MyEconLab on its own (which should be cheaper).

I may include additional material in the lectures that is not covered in the textbook. You are responsible for this material on the exams.

MyEconLab (MEL): MyEconLab is an online resource with hundreds (possibly thousands) of practice problems which will be very helpful in learning the concepts of the course. It comes with a textbook purchase, or can be purchased separately. Since part of the course grade is based on problem sets that will be completed via MyEconLab, you must obtain access to MyEconLab in order to receive these points (which will be 5% of your grade). To do so, go to <http://www.myeconlab.com> and register. Then, you can sign up for the course using the CourseID: troyan51491.

When registering with MyEconLab, you must use the **exact name** you use in the official university records. If you fail to do so, your grades may not be recorded correctly.

Problem sets: There will be (approximately) weekly problem sets assigned throughout the course. Problem sets will be assigned at least one week before they are due. Problem sets will consist of two parts: problems that must be completed using MyEconLab, and additional problems that must be written down and turned in to the TA. The first problem set is a Math Review on MyEconLab, and is due on Thursday, January 28th (for this problem set only, there is no written portion).

You are strongly encouraged to work with classmates on the problem sets. For the written portions of the problem sets, you are welcome to submit solutions as a group. Groups can have **at most** 4 members. Make sure the names of all group members are on the first page of each assignment. In the second week of class, I will send out an email for those who do not have a group and would like one, and I will assign groups. Not all problems will be graded; problems will be chosen at random for careful grading. The MyEconLab portion of the problem sets must be completed individually, and will be graded instantaneously.

It is in your interest to learn how to solve the problems, and not simply copy solutions from a classmate. **I cannot overemphasize the importance of completing and understanding the problem sets to your success in the course.** The goal of the course is for you to learn to think and reason like an economist, and the best way of doing that is by solving many problems. The exam questions will be in a style very similar to the problem sets. Learning how to apply the concepts of the course to unfamiliar problems takes practice. If you do not take the time to do the problem sets, you almost certainly will not do well on the exam. Although you are allowed to work in groups on parts of the problem sets, it is your interest to actually **understand** how to solve all of the problems yourself.

Important note: To encourage you to actually understand the homework problems and not free ride off of your group members, one question on each exam will be taken from the homework problems (with potentially slight modification). It may come from either the written or online portion of the homeworks.

Grading: Your grade will be based on homework assignments and three (non-cumulative) exams:

Exam 1	30%
Exam 2	30%
Exam 3	30%
Problem sets	10% (5% online, 5% written; your lowest score from each will be dropped)
Course evaluations	1% bonus

It is often asked whether grades are “curved”. This is vague terminology, and can mean many different things. If by “curved” one means “a pre-set distribution of grades” (e.g., 25% get an A, 50% gets a B, etc., no matter what), this is certainly *not* the case. If all of the class does well, I have no problem giving all A’s. Thus, I think the best answer to this question is that there are upper bounds on the cutoff for each letter grade, but no lower bound. That is, at least a 90% will guarantee an A-, at least 80% will guarantee a B-, etc. These cutoffs may shift downwards, but they will *not* shift up.

Exams: The three exams will take place on the following dates (all in-class):

Exam 1	February 25th
Exam 2	April 7th
Exam 3	May 3rd

Strictly speaking, exams will only cover material introduced since the previous exam (or since the beginning of the course for Exam 1), but the material in the class builds on itself, and so understanding earlier material will be absolutely essential to fully understand the later material. For that reason, the first 2-3 weeks of the class are by far the most important, and I strongly suggest you do not fall behind.

Exams will be closed book and closed notes. The exams will mainly ask you to solve problems (similar to those found on the homework), with potentially some short-answer questions as well. They will test your ability to set up, analyze, and solve problems by applying the economic and mathematical tools developed in the course, not your ability to memorize.

Exams will be pledged.

Discussion sections: In addition to the lecture, you must also enroll in one of the discussion sections, at either 6, 7, or 8 pm on Monday nights. The discussion sections are an important part of the course, because they will be focused on showing how to set up and solve problems. They will cover both problem set questions and go over additional problems that were not assigned. In addition, they will give you an opportunity to ask any questions you may have about the material.

Class announcements, questions, etc.: I will make all official class announcements (regarding assignments, exams, changes to the syllabus, etc.) via Collab. All other questions/discussion related to the class will be done via Piazza. Rather than emailing me or the TA your questions about the material, problem sets, or even course logistics, you should post them on Piazza. That way, the entire class can benefit from the discussion (this is what we call in economics parlance a positive externality!). In addition, your question may have already been asked, in which case you figure out the answer immediately. The Piazza page for our class is piazza.com/virginia/spring2016/econ3010003004.

Feedback: Feedback is incredibly useful to make sure my teaching is effective and that you are getting the most out of the class. Unfortunately, most of the time, students only give feedback when directly asked at the end of semester evaluations, at which point it is too late. Piazza can also be used to send me feedback about the course, including any questions, comments, or complaints that you may have as the course progresses. This will enable me to improve the course as we go along. To encourage this, I have set up a “Feedback” folder on Piazza. If you are uncomfortable providing feedback with your name attached, it is perfectly fine to do so anonymously. I strongly encourage you to take advantage of this feature. If you don’t speak up, I won’t know what needs to be improved!

Course Outline:

This outline is **extremely** tentative, and is subject to change depending on how the course progresses.

Date	Topics	Textbook reference
Jan 21	Logistics; math review	
Jan 26, 28	Consumer preferences; utility functions; indifference curves	Chapter 3
Feb 2, 4	Marginal rates of substitution; budget sets; constrained choice	Chapter 3
Feb 9, 11	Demand curves; comparative statics of demand; income and substitution effects	Chapter 4
Feb 16, 18	Welfare analysis; government policies and welfare	Chapter 5
Feb 23	Production functions; cost curves	Chapters 6, 7
Feb 25	Exam 1	
Mar 1, 3	Profit maximization; supply curves	Chapter 8
Mar 8, 10	Spring break	
Mar 15	Partial equilibrium (perfect competition)	Chapters 8, 9
Mar 17, 22, 24	General equilibrium theory	Chapter 10
Mar 29, 31	Externalities and public goods	Lecture notes
Apr 5	Game theory: strategies, best responses, Nash equilibrium	Chapter 13
Apr 7	Exam 2	
Apr 12	Game theory, continued	Chapter 13
Apr 14	Auctions	Lecture notes
Apr 19, 21, 26	Market power: Monopoly and oligopoly	Chapter 14
Apr 28	Asymmetric information	Chapter 18
May 3	Exam 3	Chapter 18