SYLLABUS

Principles of Economics with Calculus
CaltechX Ec1011x
Prof. Antonio Rangel
Winter 2016

About this course. This course provides a quantitative and model-based introduction to basic economic principles, and teaches how to apply them to make sense of a wide range of real world problems. Examples of applications include predicting the impact of technological changes in market prices, calculating the optimal gasoline tax, and measuring the value of new products.

This is a real Caltech class. It is taught concurrently to Caltech and on-line students. This has two implications. On the costs side: the class is challenging, makes extensive use of calculus, and will demand significant effort. On the benefit side: successful completion of the class will provide you with an in-depth understanding of basic economics, and will permanently change the way you see the world.

Requirements. In order to complete this course, students are required to watch all of the video lectures and read all of the lecture notes. They are also required to submit nine problem sets and a final exam. To maximize learning, students are also urged to work on the practice problems, and to be active participants of the discussion boards.

Grading. The final grade for the course depends on the performance in the problem sets (60% of the final grade) and the final exam (40%).

On-line students who complete the requirements above and obtain a final grade of at least 70% will receive a certificate of satisfactory completion. No grade will be stated in the certificate.

Caltech students will be graded on a curve computed using only their distribution of grades.

Mastery learning. This course subscribes to the principles of mastery learning. This has two practical implications.

First, you are allowed to try the homework problems as many times as you want before the deadline for submission. There is no penalty for repeated tries. However, once you press the "Show the Answer" button, further attempts will not be recorded towards your grade.

Note: Due to current software limitations in the edX platform, you will be allowed to submit a solution up to a maximum of 10 times. The "Show the Answer" button will show up after you enter a correct response, or you exhaust the 10 changes, whatever happens first.

Second, you are allowed to try the final problems 3 times before the deadline for submission. Thus, if you get it wrong the first time, you have another chance to correct your answer. To minimize the temptation of cheating in the final, no solutions will be provided.

Why do we use this somewhat unusual grading policy? Because we want you to learn as much economics as possible, and the research shows that you learnt the most when you try to solve problems repeatedly, until you get them right.

Deadlines and extensions. Deadlines are hard: there are No extensions.

A detailed description of the dates in which materials will be released and due is provided in the calendar below.

Collaboration policy. Students are welcome (in fact, encouraged) to work on the problem sets with others. However, students are not allowed to obtain the answers of the problems from other students, either verbally or by looking at others' solutions.

Students must complete the final exam on their own.

Contact policy for non-Caltech students. Due to the very large enrollment in these classes, the only form of contact with non-Caltech students will be through the Discussion Board. In particular, we will not be able to respond to direct e-mails, texts, letters, or phone calls. We wish we could, since we enjoy tremendously interacting with the students in the course, but it is not feasible.

Special instructions for Caltech students. Caltech students will have access to several additional learning resources, beyond those provided through the edX platform. It is very important that you come to the first meeting of the class, on January 5th, where all of this resources will be described in detail.

Discussion board policy. In our experience, the Discussion Board is an invaluable part of the course, and has been used creatively by students in the past to advanced their learning. The course staff will certainly be a daily and extensive participant in the board.

To insure the quality of the Board, we urge students to follow the following policies:

1. Do not post, or give away, the solutions for the problem sets.

2. Do not discuss the final exam in the board.

   Be polite and civil at all times, especially with other students.

   We urge to give us feedback on the course, since we are eager to correct mistakes and improve its content. But please use rule 3.

3. The Board can only be used to matters related to the course.

   Above all, please use your common sense.

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1/4 edX Intro out Unit 1 out PS 1 out	1/5 CIT students IN CLASS org. meeting	1/6	1/7	1/8	1/9	1/10
1/11 edX PS 1 due Unit 2 out PS 2 out	1/12 CIT students IN CLASS flipped classroom 1	1/13	1/14 OHs	1/15	1/16	1/17
1/18 edX PS 2 due Unit 3 out PS 3 out	1/19 CIT students IN CLASS flipped classroom 2	1/20	1/21 OHs	1/22	1/23	1/24
1/25 edX PS 3 due Unit 4 out PS 4 out	1/26 CIT students IN CLASS flipped classroom 3	1/27	1/28 OHs	1/29	1/30	1/31
2/1 edX PS 4 due Unit 5 out PS 5 out	2/2 CIT students IN CLASS flipped classroom 4	2/3	2/4 OHs	2/5	2/6	2/7

Mon	Tue	Wed	Thu	Fri	Sat	Sun
2/8 edX PS 5 due Unit 6 out PS 6 out	2/9 CIT students IN CLASS flipped classroom 5	2/10	2/11 OHs	2/12	2/13	2/14
2/15 edX PS 6 due Unit 7 out PS 7 out	2/16 CIT students IN CLASS flipped classroom 6	2/17	2/18 OHs	2/19	2/20	2/21
2/22 edX PS 7 due Unit 8 out PS 8 out	2/23 CIT students IN CLASS flipped classroom 7	2/24	2/25 OHs	2/26	2/27	2/28
2/29 edX PS 8 due Unit 9 out PS 9 out	3/1 CIT students IN CLASS flipped classroom 8	3/2	3/3 OHs	3/4	3/5	3/6
3/7 edX PS 9 due Final remarks out Final exam out	3/8 CIT students IN CLASS flipped classroom 9	3/9	3/10 OHs	3/11	3/12	3/13
3/14	3/15	3/16 edX Final exam due	3/17	3/18 Course certificates issued	3/19	3/20 Course website closes