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Office Hours: Wed 4.15 – 5.15pm

## ECO 426: MARKET DESIGN

University of Toronto  
Department of Economics

Winter 2020

### COURSE DESCRIPTION AND LEARNING OBJECTIVES

This course provides an introduction into the theory and practice of market design. In the first part of the course, will discuss some key auction formats, where and how they are used. The challenges of auction design are illustrated through some applications. In the second part, you will learn about matching markets – markets in which prices don't do all the work. You will learn about the challenges in these markets, desirable properties and how sometimes not all of them can be met. Sample topics include school choice, kidney exchange, spectrum auctions, and keyword auctions.

The course assumes the knowledge of Microeconomic Theory (ECO200Y1/ECO204Y1/ECO206Y1), Game Theory (ECO316H1 or ECO326H1) as well as a strong background in math, especially calculus, linear algebra and probability theory.

### LOGISTICS

- Session times: In class Wed, 11:00am – 1:00pm  
*(lecture and/or tutorial session will be hold during this time)*  
Sometimes there will be online materials to be completed before class  
(announced/posted on Quercus)
- Teaching Assistant: Uluç Şengil *(to be determined via class survey)*
- Class schedule: Most sessions will be in-class *(lecture, or lecture + tutorial)*. In some weeks the lecture content will be delivered via e-learning. In those weeks there will be no or a shorter lecture, and a longer tutorial. Please **check Quercus about updates**.
- Course website: Quercus, at <https://q.utoronto.ca/courses/137639>  
Students are responsible for reading course announcements, lecture notes, and other materials posted on the course website. No handouts will be distributed in class; please download them yourself.

## EMAIL POLICY

I have found email generally not to be the best communication format to address questions and concerns of students. I encourage you to attend the tutorial sessions (run by Uluç). Please use these as well as our office hours for your questions and concerns.

I will do my best to respond to e-mail within 24 hours on a weekday, 48 hours on a weekend according to the following policy:

- a) I will only respond to e-mails posing questions that can be answered in a sentence or two. For detailed questions, please see me or the TA in office hours.
- b) I will not reply to e-mails that request information that can be found on the website or the syllabus, so you should check those places first.
- c) I will not reply to e-mails regarding the results of graded material – for that, please see me in office hours.

## ASSESSMENT/GRADING

Your grade for this course will be:

Term test 1 ( <i>Feb 26, 2020</i> )	30%
Term test 2 ( <i>April 1, 2020</i> )	30%
Final paper ( <i>due: April 17, 2020 11:59pm</i> )	35%

**Term tests:** Both term tests will be taken in-class, on February 26<sup>th</sup> and April 1<sup>nd</sup>. Details about the format and location of the tests will be announced closer to the dates on which they occur (in class and on Quercus).

**Problem sets:** Will be posted on Quercus. The only way to learn market design is by applying the methods yourself and solving problems. Make sure to solve the problems yourself (or give it your best shot) and *write down the solutions before* solutions are posted or discussed in the tutorial.

## TEXTBOOKS

Required:

*Market Design*, Guillaume Haeringer, (2018), MIT Press

**Additional Resources:**

*Auction Theory*, Vijay Krishna, (2009), Academic Press.

*Two-sided Matching Markets*, Al Roth & Marilda Sotomayor, (2013), Cambridge University Press.

<sup>1</sup> the weight of the best test score will be increased by 5%.

*Who Gets What—and Why: The New Economics of Matchmaking and Market Design*, Al Roth, (2016), Houghton Mifflin Harcourt.

*Any additional materials and lecture notes posted on Quercus.*

## CLASS RULES

**Academic integrity** is considered one of the central values of this class. *In particular, any non-compliance with academic integrity or documented academic misconduct will result in automatic failure for the entire course.*

**Missing a test:** Students who miss a test due to a medical issue must notify me by email before the test begins. An original Verification of Student Illness or Injury Form (*can be found [here](#)*) completed by a licensed medical doctor or nurse practitioner must be provided to me within one week of the test date. If I find the documentation acceptable, I will schedule a make-up test. Participating students will be notified of the date and time of the test by email, possibly as late as the evening before the make-up will take place. Any student who misses the make-up test will get zero; there will be no make-up make-up. Note that providing false or misleading information in support of a request for a make-up is a serious academic offense.

**Accessibility/ Accommodation:** If you have a disability that warrants accommodation, please contact me by e-mail before February 1, 2020. Attach to your e-mail the accommodation letter that you received from the Accessibility Service Office ([here](#)). The subject line of your e-mail should be: ECO426 VISA

**Electronic devices:** Please be courteous to others and keep your cell phones and electronic devices in silent mode during class. No electronic devices should be used for personal entertainment during class.