

Ettore Damiano  
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**Time and Location:** Monday 2:00 - 4:00, UC 244

**Office Hours:** Tuesday 2-3, GE 209

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CLASSES: We meet Monday 2-4 in UC 244; occasionally, we will use the third scheduled class hour (Monday 4-5) to make up cancelled lectures, for tutorial sections or for the midterm test. In those cases, I will post an announcement ahead of time on the class website.

REMARKS: The class webpage at <http://www.economics.utoronto.ca/damiano/eco426.html> will be used to post relevant course material and for important announcements. You are responsible for checking it frequently.

GOALS: “ Traditional economic analysis studies markets where prices adjust so that supply equals demand. Both theory and practice show that markets function well in many cases. But in some situations, the standard market mechanism encounters problems, and there are cases where prices cannot be used at all to allocate resources. For example, many schools and universities are prevented from charging tuition fees and, in the case of human organs for transplants, monetary payments are ruled out on ethical grounds. Yet, in these and many other cases, an allocation has to be made. How do such processes actually work, and when is the outcome efficient?” (The Royal Swedish Academy of Sciences’ press release following the award of The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel for 2012.) The main goal of this course is to illustrate how economic theory can be used for the design of effective market-based institutions to solve problems of economic resource allocations. The first half of the course will concentrate on matching markets with applications to job matching, school assignment, kidney exchange and others. The second half will focus on the theory of auctions with applications to the design of internet search auctions, radio spectrum auctions and others. The list of topics covered in the class will include (in approximate order of coverage)

1. Introduction to Market Design
2. Matching Theory: the “marriage market”
3. House allocation and kidney exchange
4. School assignment problems
5. Auction theory
6. Common value auctions
7. Position auctions
8. Spectrum auctions

READINGS: There is no textbook for this class. A list of readings for each lecture will be posted on the class website and be available for download either from publicly available sites or from the library system using your utorid. For those interested in a more comprehensive treatment of some of the topics in the class two useful books are

- Roth and Sotomayor, *Two-sided Matching: A Study in Game-theoretic Modeling and Analysis*. Econometric Society Monographs, Cambridge University Press.
- Paul Milgrom, *Putting Auction Theory to Work*. Cambridge University Press. 2004.

EVALUATION: Your grade in the course will be based on your marks in: i) a midterm test; ii) a final exam; and iii) two assignments.

- The assignments will receive a weight of 15% each in the final grade for the class. Assignment 1 is due on October 19, Assignment 2 is due on December 7. Each of the assignment will be available on the class website one week before the due date. Each assignment must be **typed** and submitted via email to [ettore.damiano@utoronto.ca](mailto:ettore.damiano@utoronto.ca). For each day of lateness of an assignment, there is a penalty of 5% of the final grade for the course, up to a maximum of 15% per assignment.
- The term test will receive a weight of 30% in the final grade. The midterm will be held on Monday November 2 starting at 2pm. Location of test: TBA.
- The final exam will receive a weight of 40%. The final exam will cover the entire term's work.

Every student is required to write the midterm test on November 2. In exceptional circumstances when for documented serious medical reasons a student is unable to write the test, a make-up test will be provided. To be eligible to write a make-up test you: i) **MUST** contact me **via email** within 24 hours of the date of the missed test; ii) **MUST** provide appropriate explanation of the nature of your illness and documentation. I will set a date and time for the make-up test shortly after I receive your email. A student who fails to comply with any of the above requirements will not be allowed to write a make-up test and will receive a grade of 0 for the missed midterm.