ECON 490 (RS3): Auctions

University of Illinois at Urbana-Champaign
College of Liberal Arts & Sciences
Department of Economics

Communication

E-mail: shafer1@illinois.edu
Course Webpage: http://compass2g.illinois.edu/
Announcements, lecture notes, assignments, and readings will be posted here.
Office Hours: Mondays 11 am - Noon,
Tuesdays 2 pm - 3 pm,
and by appointment.
(Additional office hours will be scheduled for the days leading up to exams.)
During office hours, Rachel will be waiting for students in room 15 in the basement of DKH. When students arrive, she will accompany them to one of the neighboring TA Office Hour rooms to talk.

Catelog Description

Economic analysis of auctions. Topics include: an introduction to standard auction formats, the independent private values auction model and revenue equivalence, common value auctions and the winner's curse. Applications include eBay and spectrum auctions.

Course Format

Much of our time in class will be spent in lecture and discussion. We will analyze various types of auctions from a game theoretic standpoint. Your questions are encouraged throughout the lecture!

As we become acquainted with different types of auction rules, we will experience some auction formats for ourselves in classroom experiments. Some of these experiments will be set up using the online tools at veconlab.econ.virginia.edu. It will be helpful for you to bring a laptop to class on the days that such an experiment is planned.

Prerequisites

This is a course for advanced undergraduates. A knowledge of probability and calculus (derivatives and integrals) is expected. It would also be a great advantage for you to be familiar with game theory and statistics.

Learning Resources

In addition to the lecture notes and supplementary readings that will be provided on Compass, the following readings will be required:
Snipers, Shills and Sharks by Ken Steiglitz. This is textbook is written in a conversational style with an emphasis on intuition and application. It will be used mainly in the first two thirds of the course.

Evaluation

A student's total score in the course will be calculated according to these weights:

Points		Date	Time
150	Attendance		
100	Problem Set 1	Sept 17	9:30 am
100	Problem Set 2	Oct 6	9:30 am
100	Problem Set 3	Dec 3	9:30 am
100	Project: Auction Example	Dec 10	5:00 pm
200	Midterm (+ Midterm Exam Credit)	Oct 13	9:30 - 10:50 am
250	Final (+ Final Exam Credit)	Dec 15	8:00 - 10:00 am
1000	Total		

A score of 900 points or better will receive at least an A; a score of 800 points or better will receive at least a B; a score of 700 points or better will receive at least a C. Plus/minus grades may be used. Exact cutoffs will be determined once the total scores are calculated.

Attendance

Your participation in the class is important, both for your own learning experience and that of your classmates. You are encouraged to ask and answer questions during lectures. We will also do group activities and experiments together. Plan on attending the class regularly.

The attendance grade will be determined in the following way. Every class meeting that you attend will count for 5 points towards your attendance grade. (Since there are 30 class meetings scheduled, the total is 150 points.) *Your lecture attendance will be counted only if you arrive by the start of class, and stay for the duration of the lecture.* Absences will be excused in the event of a serious illness, family emergency, or university commitment, after appropriate documentation has been submitted to the instructor. You will also be granted 4 *unexcused* absences over the course of the semester.

Assignments

The assignments planned for the class are three problem sets and a short research project. Late assignments receive no credit. Assignments can be turned in early at your instructor's office.

Problem sets

Questions on the three problem sets will be mostly numerical problems or critical thinking questions. They are crafted to help you prepare for the upcoming exam.

Project

The project is a short research and essay assignment. In approximately 5 pages, you will describe a historical or contemporary example of an auction, how it is conducted, and how it relates to the theoretical models and concepts that we have studied in class. Details of this assignment will be available on our Compass page.

Exams

Exams will be made up of a combination of short answer, essay, and mathematical problems. The final will not be cumulative, but bear in mind that the later material builds on the earlier material.

The following materials are allowed for use during the exam: graphing calculator, accounting calculator or four-function calculator. There are to be no books, papers other than the exam itself, cell-phones or other items that connect to the internet. Students found to be using unapproved items are in violation of the Academic Integrity policy of the University and will be subject to disciplinary action.

Exam Credit

You will be given the opportunity to raise each exam grade (by at most 24 points each, and not by an amount exceeding the points lost on that exam). This "exam credit" can be earned by completing additional reading from a list of articles or excerpts related to the exam content, and submitting a report summarizing the reading and answering assigned questions about it. You may earn up to 8 points for each report, submitting up to 3 reports per exam. This work will be due approximately one week after your exam score is determined. (I am committed to grading your midterm and final exams promptly.)

Final Exam Conflict Policy

From the University's final exam policy: "Any student having more than two consecutive final examinations is entitled to rescheduling as follows if he or she takes the following action no later than the last day of classes:

- The student must investigate whether a conflict examination is being held at another time for any of the examinations involved.
- If a conflict examination has been scheduled for any of the courses, the student must take one or more of these conflict examinations. If conflict examinations are offered for more than one course, the student must take the conflict for the course that has the largest number of students.
- If no conflict examinations have been scheduled, the student must contact the instructor of the course having the largest number of students. The contact must be made no later than the last day of classes, and that instructor must provide a makeup examination.
- Normally in a semester several combined-sections, conflict, and noncombined examinations are given at the same time. As a guide to resolving conflicts, an order of priority has been established within each examination period."

The University's final exam policy is available at: http://studentcode.illinois.edu/article3_part2_3-201.html

Academic Integrity

"The University has the responsibility for maintaining academic integrity so as to protect the quality of education and research on our campus and to protect those who depend upon our integrity. It is the responsibility of each student to refrain from infractions of academic integrity, from conduct that may lead to suspicion of such infractions, and from conduct that aids others in such infractions."

In other words: Do not cheat. Do not help someone else to cheat. Are you unsure about what counts as cheating? Our university's standards of academic integrity specify that "ignorance is not a defense"! You can inform yourself about standards of academic integrity, and penalties for violating those standards, by consulting the Code of Policies and Regulations.

Accommodations

To obtain disability-related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor and the Disability Resources and Educational Services (DRES) as soon as possible. To contact DRES you may visit 1207 S. Oak St., Champaign, call 333-4603 (V/TTY), or e-mail a message to disability@uiuc.edu.

Emergency Response Recommendations

The university maintains guidelines for emergency responses. A list of recommendations when to evacuate and when to find shelter are available at:
http://illinois.edu/cms/2251/general_emergency_response_recommendations_8_16_13_final.docx
Floor plans for specific buildings are available at:
http://police.illinois.edu/emergencyplanning/floorplans/

Tentative Schedule of Topics

Week	Date	Topic
Wk 1	Aug 25	Introduction & Overview
	Aug 27	Game Theory Tools: Strategies & Solution Concepts
		INDEPENDENT PRIVATE VALUE MODEL
Wk 2	Sept 1	Labor Day – no class
	Sept 3	Bidding in a Vickrey Auction
Wk 3	Sept 8	Statistical tools: Distributions, Expectations, & Order Statistics
	Sept 10	Bidding in a First Price Auction I
Wk 4	Sept 15	Bidding in a First Price Auction II
	Sept 17	First Price Auctions in the Laboratory **Problem Set 1 due** in class
Wk 5	Sept 22	Expected Revenue
	Sept 24	Revenue Equivalence I
Wk 6	Sept 29	Revenue Equivalence II
	Oct 1	Practical Considerations I
Wk 7	Oct 6	Practical Considerations II **Problem Set 2 due** in class
	Oct 8	Review for Midterm
Wk 8	Oct 13	**Midterm Exam** in class
	Oct 15	Reserve Prices
		The deadline to drop a course without a grade of W is October 17
Wk 9	Oct 20	Optimal Auctions
		OTHER BEHAVIORAL ASSUMPTIONS
	Oct 22	Risk Aversion
Wk 10	Oct 27	Spite I
	Oct 29	Spite II
Wk 11	Nov 3	Cheating
		COMMON VALUE AUCTIONS
	Nov 5	Introduction & Experiment
Wk 12	Nov 10	The Winner's Curse
	Nov 12	Empirical Evidence
		OTHER AUCTION RULES
Wk 13	Nov 17	Double Auctions I
	Nov 19	Double Auctions II
Wk 14		Thanksgiving Break - no classes
Wk 15	Dec 1	Multi-Unit Auctions
	Dec 3	FCC Spectrum Auctions **Problem Set 3 due** in class
Wk 16	Dec 8	Peculiar Bids in FCC Auctions
	Dec 10	Review for Final **Project due** by 5 pm
Finals	Dec 15	**Final Exam** 8 am – 10 am