

# UNIVERSITY of **HOUSTON**

## **Empirical Industrial Organization– Econ 4376**

Spring Semester – 2023

2:30 pm - 3:45 pm, Tuesday - Thursday

Roy Gustav Cullen Building 120

### **Contact information**

Prof. Andrea Szabo

E-mail: [aszabo2@uh.edu](mailto:aszabo2@uh.edu)

Office: Online

Office hours: By appointment only. Mostly on Thursdays, check the online schedule.

You can schedule an appointment at <http://www.uh.edu/~aszabo2/appointments.htm>

### **Course Description**

Welcome to Economics 4376! This course will cover the basic tools and issues in the field of empirical industrial organization. While the standard competitive model covered in Intermediate Micro is an extremely powerful tool, it often fails to characterize much of what is observed in many markets. Each of our topics will cover different cases where one or more of the assumptions of competitive markets fails.

We focus on models where market power of individual firms is created either by the nature of the product, because buyers have limited information about the product, or because firms are able to price discriminate among consumer groups. We close the class by looking at some features of natural monopolies and discuss how public utilities behave on the market, as well as the effects of some regulations on consumer welfare.

This course will emphasize real world case studies, but we will also develop theoretical models that will help us analyze the behavior we see in the case studies. An additional goal of this class is to introduce you to academic research. You will learn how to use library resources and statistical software for data analysis.

### **Prerequisites**

Students are expected to have taken Intermediate Microeconomics (ECON 3332) and Introduction to Econometrics (Econ 3370). These prerequisites will be strictly enforced. You will need to be familiar with economic models of perfect competition and monopoly. I will assume that you learned the basics of the statistical software STATA during your Introduction to Econometrics.

### **Textbook**

Mainly, we will discuss a number of journal articles in the field of industrial organization.

There is no textbook for this class which covers all discussed topics. Attending classes is a must.

A recommended textbook is

Victor Aguirregabiria: Empirical Industrial Organization: Models, Methods, and Applications which is available for free here:

[http://aguirregabiria.net/wpapers/book\\_dynamic\\_io.pdf](http://aguirregabiria.net/wpapers/book_dynamic_io.pdf)

### **Course Requirements**

This course will be time intensive. You should come prepared to discuss the readings in detail. Assuming that the size of the course is manageable, a significant amount of class time will be devoted to the discussion of the readings.

There will be 5 extensive homework assignments and 2 midterms. Please prepare and submit all your homework assignments knowing that it is possible that I will share it with other students enrolled in the class (without your name or grade).

All homework assignments will be done online through the University of Houston Blackboard Learn website. **All Problem Sets are due on the day listed below by 8.30 am.**

Homework assignments have multiple goals. First, they help you internalize the economic models we discuss in class. Second, you will need to do your own work to get more hands-on experience with research. You will gather data; analyze data using a statistical software; collect, read and summarize newspaper articles and academic papers on specific questions. All these skills will equip you to successfully start your own research in the future.

Midterms will be given in class on the dates listed in the calendar.

All exams are open book and open notes. No cooperation is allowed during the tests. Academic misconduct will not be tolerated and any instances of it will be dealt with according to the appropriate University channels.

If you disagree with the grading of a midterm, submit it for further review. You must submit a written argument for why you deserve more points for the specific question(s) you would like re-graded. If you do not specify this, the entire test will be re-graded and it is possible that you may lose points. You must submit these arguments within one week after the midterm has been returned.

### **Class Website**

All assignments and handouts will be posted on the class website in Blackboard Learn. Go to <http://www.uh.edu/blackboard> and click the white "Blackboard Learn" button. Log in with your CougarNet ID and password.

You will be required to use STATA, a statistical software package. You can access STATA via the Libraries' Virtual Learning Commons. Please see the detailed instructions on how to access the software in Blackboard.

If you would like to get your own copy of STATA, please visit STATA's website for student pricing: <https://www.stata.com/order/new/edu/profplus/student-pricing/>

We won't devote much class time to learning how to use this software. I will assume that you learned the basics during your Introduction to Econometrics, which is a prerequisite for this class.

## **Grading**

You are required to submit all homework assignments on time. Late assignments receive zero points.

Course Component	Percentages
Problem Sets	40
Midterm 1	30
Midterm 2	30
Total	100

The numerical course grade will be converted to a letter grade according to the following scale:

92%-100%	A
90%-91%	A-
88%-89%	B+
82%-87%	B
80%-81%	B-
70%-79%	C+
50%-69%	C
40%-49%	C-
38%-39%	D+
33%-37%	D
30%-32%	D-
-29%	F

There is no curve for the class. This means that you are not competing with other students, and you will always know exactly where you stand in the class based on your performance.

### COVID-19 Information

Students are encouraged to visit the University's [COVID-19](#) website for important information including diagnosis and symptom protocols, testing, vaccine information, and post-exposure guidance. Please check the website throughout the semester for updates. Consult the [Undergraduate Excused Absence Policy](#) for information regarding excused absences due to medical reasons.

### Reasonable Academic Adjustments/Auxiliary Aids

The University of Houston complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, pertaining to the provision of reasonable academic adjustments/auxiliary aids for disabled students. In accordance with Section 504 and ADA guidelines, UH strives to provide reasonable academic adjustments/auxiliary aids to students who request and require them. If you believe that you have a disability requiring an academic adjustments/auxiliary aid, please contact [the Justin Dart Jr. Student Accessibility Center](#) (formerly the Justin Dart, Jr. Center for Students with DisABILITIES).

### Excused Absence Policy

Regular class attendance, participation, and engagement in coursework are important contributors to student success. Absences may be excused as provided in the University of Houston [Undergraduate Excused Absence Policy](#) and [Graduate Excused Absence](#)

Policy for reasons including: medical illness of student or close relative, death of a close family member, legal or government proceeding that a student is obligated to attend, recognized professional and educational activities where the student is presenting, and University-sponsored activity or athletic competition. Under these policies, students with excused absences will be provided with an opportunity to make up any quiz, exam or other work that contributes to the course grade or a satisfactory alternative. Please read the full policy for details regarding reasons for excused absences, the approval process, and extended absences. Additional policies address absences related to [military service](#), [religious holy days, pregnancy and related conditions](#), and [disability](#).

#### Recording of Class

Students may not record all or part of class, livestream all or part of class, or make/distribute screen captures, without advanced written consent of the instructor. If you have or think you may have a disability such that you need to record class-related activities, please contact the [Justin Dart, Jr. Student Accessibility Center](#). If you have an accommodation to record class-related activities, those recordings may not be shared with any other student, whether in this course or not, or with any other person or on any other platform. Classes may be recorded by the instructor. Students may use instructor's recordings for their own studying and notetaking. Instructor's recordings are not authorized to be shared with *anyone* without the prior written approval of the instructor. Failure to comply with requirements regarding recordings will result in a disciplinary referral to the Dean of Students Office and may result in disciplinary action.

#### Resources for Online Learning

The University of Houston is committed to student success, and provides information to optimize the online learning experience through our [Power-On](#) website. Please visit this website for a comprehensive set of resources, tools, and tips including: obtaining access to the internet, AccessUH, Blackboard, and Canvas; using your smartphone as a webcam; and downloading Microsoft Office 365 at no cost. For questions or assistance contact [UHOnline@uh.edu](mailto:UHOnline@uh.edu).

#### UH Email

Please check and use your Cougarnet email for communications related to this course. To access this email, [login](#) to your Microsoft 365 account with your Cougarnet credentials.

#### Academic Honesty Policy

High ethical standards are critical to the integrity of any institution, and bear directly on the ultimate value of conferred degrees. All UH community members are expected to contribute to an atmosphere of the highest possible ethical standards. Maintaining such an atmosphere requires that any instances of academic dishonesty be recognized and addressed. The [UH Academic Honesty Policy](#) is designed to handle those instances with fairness to all parties involved: the students, the instructors, and the University itself. All students and faculty of the University of Houston are responsible for being familiar with this policy.

#### Title IX/Sexual Misconduct

Per the UHS Sexual Misconduct Policy, your instructor is a “responsible employee” for reporting purposes under Title IX regulations and state law and must report incidents of sexual misconduct (sexual harassment, non-consensual sexual contact, sexual assault, sexual exploitation, sexual intimidation, intimate partner violence, or stalking) about which they become aware to the Title IX office. Please know there are places on campus

where you can make a report in confidence. You can find more information about resources on the Title IX website at <https://uh.edu/equal-opportunity/title-ix-sexual-misconduct/resources/>.

#### Security Escorts and Cougar Ride

UHPD continually works with the University community to make the campus a safe place to learn, work, and live. Our Security escort service is designed for the community members who have safety concerns and would like to have a Security Officer walk with them, for their safety, as they make their way across campus. Based on availability either a UHPD Security Officer or Police Officer will escort students, faculty, and staff to locations beginning and ending on campus. If you feel that you need a Security Officer to walk with you for your safety please call [713-743-3333](tel:713-743-3333). Arrangements may be made for special needs.

Parking and Transportation Services also offers a late-night, on-demand shuttle service called Cougar Ride that provides rides to and from all on-campus shuttle stops, as well as the MD Anderson Library, Cougar Village/Moody Towers and the UH Technology Bridge. Rides can be requested through the UH Go app. Days and hours of operation can be found at <https://uh.edu/af-university-services/parking/cougar-ride/>.

#### Syllabus Changes

Please note that the instructor may need to make modifications to the course syllabus. Notice of such changes will be announced as quickly as possible through Blackboard.

### **Helpful Information**

**Coogs Care:** <https://uh.edu/dsa/coogscare/>

**Student Health Center:** <https://www.uh.edu/healthcenter/>

### **Tentative Course Schedule:**

**Note: The listed papers will be discussed during class and it will be clear to what extent you need to know them for the exams. If you have any doubt about what is required from you, you need to ask.**

<b>Week</b>	<b>Class #</b>	<b>Date/Day</b>			<b>Date/Day</b>	<b>Problem Sets</b>
<b>Week 1</b>	1	Jan	17	T	Welcome to IO! Introduction and syllabus	
	2		19	Th	Review of some intermediate micro concepts. Competition, Monopoly, Welfare: Perfect Competition vs. Monopoly	
<b>Week 2</b>	3		24	T	STATA class. Review of some econometric concepts	
	4		26	Th	Oligopoly, Cournot model, some game theoretic concepts.	
<b>Week 3</b>	5		31	T	Product differentiation, The effect of differentiated products on competition	PS1 Due
	6	Feb	2	Th	Measuring consumer preferences, Demand systems in product space, Demand systems in characteristics space	
<b>Week 4</b>	7		7	T	Estimation of demand for differentiated products Nevo, A. (2001): "Measuring Market Power in the Ready-to-Eat Cereal Industry," <i>Econometrica</i> , 69(2), 307-342.	
	8		9	Th	Estimating cereal demand using STATA – an application, Part I	
<b>Week 5</b>	9		14	T	Petrin A. (2002): "Quantifying the Benefits of New Products: The Case of the Minivan", <i>Journal of Political Economy</i> , 110, 705-729.	
	10		16	Th	Introduction of a new product: the cereal application, Part II	

<b>Week 6</b>	11		21	T	Goeree ,M.S. (2008): “Limited Information and Advertising in the US Personal Computer Industry,” <i>Econometrica</i> , 76(5), 1017–1074.  Problems with the logit model, PS2 help	
	12		23	Th	PS 1/2 Discussion / Midterm I review	PS 2 Due
<b>Week 7</b>	13		28	T	<b>Midterm I</b>	
	14	March	2	Th	Collecting survey data to estimate demand: practical advice and examples  Leung, T.C. (2013): “What is the True Loss Due to Piracy? Evidence from Microsoft Office in Hong Kong,” <i>The Review of Economics and Statistics</i> , 95(3): 1018–1029	
<b>Week 8</b>	15		7	T	A. Szabo and V. Pham (2022): “Net Neutrality and Consumer Demand in the Video On-demand Market,” <i>Information Economics and Policy</i> 61, 1-20.	
	16		9	Th	Estimating demand using survey data – an application using STATA	PS 3 Due
<b>Week 9</b>	17		14	T	No Class: Spring Break	
	18		16	Th	No Class: Spring Break	
<b>Week 10</b>	19		21	T	Price discrimination, 3 <sup>rd</sup> degree price discrimination, 2 <sup>nd</sup> degree price discrimination	
	20		23	Th	Stefano Della Vigna and Matthew Gentzkow (2019): “Uniform Pricing in US Retail Chains,” <i>The Quarterly Journal of Economics</i> , 134, 4, 2011–2084	
<b>Week 11</b>	21		28	T	Grocery store pricing: an application using STATA I	
	22		30	Th	Grocery store pricing: an application using STATA II	
<b>Week 12</b>	23	April	4	T	Public Utilities / Pricing of public utilities	PS 4 Due
	24		6	Th	S. Borenstein (2012): “The Redistributive Impact of Nonlinear Electricity Pricing,” <i>American Economic Journal: Economic Policy</i> , 4(3): 56–90	
<b>Week 13</b>	25		11	T	Mansur, E. T. and S. M. Olmstead (2012): “The Value of Scarce Water: Measuring the Inefficiency of Municipal Regulations,” <i>Journal of Urban</i>	

					<i>Economics</i> , 71(3), 332-346.	
	26		13	Th	Szabo, A. (2015): “The Value of Free Water: Analyzing South Africa’s Free Basic Water Policy, <i>Econometrica</i> , 83(5), 1913–1961.	
<b>Week 14</b>	27		18	T	Kelsey Jack and Grant Smith: Charging Ahead: Prepaid Metering, Electricity Use, and Utility Revenue, <i>American Economic Journal: Applied Economics</i> , 2020.	
	28		20	Th	PS 4/5 Discussion / Midterm II Review	PS 5 Due
<b>Week 15</b>	29		25	T	Current topics in IO	
	30		27	Th	<b>Midterm II</b>	