

Fall 2020

Prof. Janet Kohlhase  
University of Houston

**ECON 7341  
MICROECONOMIC THEORY I**

**Class meets TTh 1-2:30pm CDT**  
**Online section 7341-1 (14346) meets synchronously**  
**Face-to-face section econ 7341-2 (28027) meets**  
**in CBB 108 (Classroom & Business Building)**

**Office:** 201B McElhinney (M)  
**hours:** TTh 3-4pm (online preferred) and by appointment 713-743-3799  
**email:** [jkohlhase@uh.edu](mailto:jkohlhase@uh.edu)  
**web pages:** <http://www.uh.edu/~kohlhase> (general information)  
<http://www.uh.edu/blackboard> (class website, use Blackboard Learn;  
password access; also available via AccessUH)

**TA:** The TA for the course is Shuan-Wen Lin, a second year Ph.D. student in economics, office 207 McElhinney Hall (M), email [slin27@uh.edu](mailto:slin27@uh.edu), SKYPE name a8855114477, office hours by appointment, online preferred.

**Overview:** This course is the first in a sequence of two advanced microeconomic theory courses offered in the Ph.D-level graduate economics curriculum at the University of Houston. This course provides an in-depth coverage of the modern microeconomic theory of economic choices made by individual consumers and firms. The course also examines non-strategic markets such as perfect competition (both partial and general equilibrium versions) and monopoly. Topics covered include special classes of preferences and production functions, choice under uncertainty, measures of welfare at various levels—consumer, one market, and many markets in general equilibrium. The course uses mathematical methods typically used in microeconomic theory such as optimization, constrained optimization (including the Kuhn-Tucker Theorem), the envelope theorem, and comparative statics. The second micro course (Econ 7342) will develop models of asymmetric information, strategic behavior and interactions among agents and groups of agents.

**Logistics:** The Micro 1 class is being taught for the first time as a Hy-flex class for fall 2020. That means for each class period (TTh 1-2:30pm CDT) some students experience the class face-to-face while others attend the class online synchronously using a video conferencing app. Lectures will also be recorded and posted for the use of registered students. The University of Houston has required all classes to be online after the Thanksgiving break and exams will also be administered online.

What does that mean for you? You should download video conferencing software to your devices. We are most likely to use Zoom or Skype in this class, but Microsoft Teams is also a possibility. You must have a webcam so that you can participate synchronously and to be monitored while you take exams. You also should have a high-quality scanner to copy your exams and homeworks to email to the TA.

Class time consists of two parts, lectures and labs. The lectures are held TTh 1-2:30 CDT and are taught by me. The lab is held on Fridays from 10:30am-noon and is taught by the teaching assistant (TA). The TA will develop background material for the course or discuss the homework sets in the Friday labs, and students may be asked to present solutions too. Occasionally I may use the lab period for extra lectures, as needed. I expect you to attend all lectures and labs and to be an active participant in each. Homework and other course materials will be posted on our class Blackboard website.

---

## **Required Information from the University of Houston**

### Face Covering Policy (required for courses with a face-to-face component)

To reduce the spread of COVID-19, the University [requires face coverings](#) on campus including classrooms for both faculty and students. Face coverings must cover your mouth and nose and be worn throughout the class session. A mask with a valve is not considered an adequate face covering and should not be used, as it can expel exhaled air, increasing the risk to others. Eating or drinking during class is discouraged and is not an excuse for removing the face covering for any extended length of time. For additional information on the use of face coverings, please see [Face Covering FAQs](#). Failure to comply with the requirement to wear a face covering in class will result in your being asked to leave the classroom immediately and a disciplinary referral through the Dean of Students Office. Requests for accommodations relating to the face covering policy may be directed to the [Center for Students with DisABILITIES \(CSD\)](#).

### Required Daily Health Self-Assessment (required for courses with a face-to-face component)

Your presence in class each session means that you have completed a daily self-assessment of your health/exposure and you:

- Are NOT exhibiting any [Coronavirus Symptoms](#)
- Have NOT tested positive for COVID-19
- Have NOT knowingly been exposed to someone with COVID-19 or suspected/presumed COVID-19

If you are experiencing any COVID-19 symptoms that are not clearly related to a pre-existing medical condition, do not come to class. Please see [COVID-19 Diagnosis/Symptoms Protocols](#) for what to do if you experience symptoms and [Potential Exposure to Coronavirus](#) for what to do if you have potentially been exposed to COVID-19. Consult the (select: [Undergraduate Excused Absence Policy](#) or [Graduate Excused Absence Policy](#)) for information regarding excused absences due to medical reasons.

### Excused Absence Policy (required for all courses)

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 [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. Additional policies address absences related to [military service](#), [religious holy days](#), [pregnancy and related conditions](#), and [disability](#).

### Recording of Class (required for all courses)

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 [Center for Students with DisABILITIES](#). 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.

### Syllabus Changes (required for all courses)

Due to the changing nature of the COVID-19 pandemic, please note that the instructor may need to make modifications to the course syllabus and may do so at any time. Notice of such changes will be announced as quickly as possible through via email sent to your UH Exchange email account. Updated Syllabi will also be posted on Blackboard.

### UH Email

Email communications related to this course will be sent to your [Exchange email account](#) which each University of Houston student receives. The Exchange mail server can be accessed via Outlook, which provides a single location for organizing and managing day-to-day information, from email and calendars to contacts and task lists. Exchange email accounts can be accessed by logging into Office 365 with your CougarNet credentials or through Access UH. They can also be configured on [IOS](#) and [Android](#) mobile devices. Additional assistance can be found at the [Get Help](#) page.

## Webcams

Access to a webcam is required for students participating remotely in this course. Webcams must be turned on during exams to ensure the academic integrity of exam administration.

## Honor Code Statement

Students may be asked to sign an honor code statement as part of their submission of any graded work including but not limited to projects, quizzes, and exams: *"I understand and agree to abide by the provisions in the [University of Houston Graduate Academic Honesty Policy](#). I understand that academic honesty is taken very seriously and, in the cases of violations, penalties may include suspension or expulsion from the University of Houston."*

## Course Delivery Formats and Final Exams

**HyFlex Courses:** This course is a HyFlex course. Some students may have a designated face-to-face spot reserved, but alternative ways to participate will also be provided. These alternatives may include (but are not limited to) attending class sessions through synchronous streaming, viewing recordings of class meetings asynchronously, participating in discussion boards, and/or completing self-directed activities. This course will have a final exam per the [University schedule](#). As the University will be transitioning all classes and final exams given after the Thanksgiving Break to online delivery, the exam for this course will be delivered in the synchronous online format, and the specified date and time will be announced during the course. Prior to the exam, descriptive information, such as the number and types of exam questions, resources and collaborations that are allowed and disallowed in the process of completing the exam, and procedures to follow if connectivity or other resource obstacles are encountered during the exam period, may be provided.

## **Helpful Information from the University of Houston**

**Emergency Updates (weather and other):** [www.uh.edu/emergency](http://www.uh.edu/emergency)

**COVID-19 Updates:** <https://uh.edu/covid-19/>

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

**Laptop Checkout Requests:** <https://www.uh.edu/infotech/about/planning/off-campus/index.php#do-you-need-a-laptop>

**Health FAQs:** <https://uh.edu/covid-19/faq/health-wellness-prevention-faqs/>

**Student Health Center:** <https://uh.edu/class/english/lcc/current-students/student-health-center/index.php>

**UH Personal Service Resources:**

**Students with Disabilities:** The University of Houston System 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 students with a disability. In accordance with Section 504 and ADA guidelines, the University of Houston strives to provide reasonable academic adjustments/auxiliary aids to students who request and require them. Students seeking accommodation in this course should contact the instructor after obtaining the appropriate documentation through the UH Center for Students with Disabilities (<http://www.uh.edu/csd/>).

**Counseling and Psychological Services:** Counseling and Psychological Services (CAPS) can help students who are having difficulties managing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS ([www.uh.edu/caps](http://www.uh.edu/caps)) by calling 713-743-5454 during and after business hours for routine appointments or if you or somebody you know is in crisis. No appointment is necessary for the “Let’s Talk” program, a drop-in consultation service at convenient locations and hours around campus. [http://www.uh.edu/caps/outreach/lets\\_talk.html](http://www.uh.edu/caps/outreach/lets_talk.html)

---

**COURSE DESCRIPTION****Required Textbook:**

**(JR)** G.A. Jehle and P.J. Reny, *Advanced Microeconomic Theory*, 3<sup>rd</sup> edition, Financial Times Prentice Hall (an imprint of Pearson), 2011, ISBN-13: 978-0-273-73191-7.

**Highly Recommended Textbook:**

**(MWG)** A. Mas-Colell, M.D. Whinston and J.R. Green, *Microeconomic Theory*, Oxford University Press, 1995, ISBN-10: 019507340.

**Other Useful Textbooks:****Micro Theory:**

**(V)** H. Varian, *Microeconomic Analysis*, 3<sup>rd</sup> ed., Norton, 1992. A shorter treatment of PhD-level microeconomic theory than the above two books.

Kreps, David. *A Course in Microeconomic Theory*, Princeton University Press, 1990. A more “chatty” text than the above three books.

**(NS)** W. Nicholson and C. Snyder, *Microeconomic Theory: Basic Principles with Extensions*, 11<sup>th</sup> ed., Southwestern/Cengage Learning, 2008, 2012. Micro theory at the “masters-level.” Easier than the above three books, a good transition book between undergrad intermediate and graduate advanced courses. Earlier editions (some with only Nicholson as the author) are also fine. This book is more advanced than Nicholson’s undergrad intermediate text, *Intermediate Microeconomics*.

**Math related:**

K. Sydsaeter, A. Strom and P. Berck, *Economists Mathematical Manual*, 4<sup>th</sup> ed. Springer, 2005. A short book defining most of the mathematical notation you will encounter in micro theory.

**(SS)** E. Silberberg and W. Suen, *The Structure of Economics: a Mathematical Analysis*, 3<sup>rd</sup> ed., Irwin McGraw-Hill, 2001. Very good on constrained optimization and comparative statics.

**(SB)** C. P. Simon and L. Blume, *Mathematics for Economists*, Norton, 1994. Good on optimization, concave functions, homogeneous functions.

**(CW)** A. C. Chiang and K. Wainwright, *Fundamental Methods of Mathematical Economics*, 4th ed., McGraw-Hill Irwin, 2005 (or any edition; earlier editions authored solely by Chiang). The classic math-econ book written at a lower level than **SS** and **SB**.

<b>Course Evaluation:</b>	30%	Midterm (tentative date: Tuesday October 20, 2020 during class time via synchronous online format)
	55%	Final Exam (exact date: Tuesday December 15, 2020, 2-5pm CT, via synchronous online format)
	15%	Homework sets

The exams will consist of problems and will be closed-book, closed-note and will be delivered in a synchronous online format where students are observed via webcams taking, scanning and emailing the completed exams to the TA. About ten homework sets will be assigned during the semester and each will be assigned a specific due date. Completed homework sets should be scanned and emailed to the TA by the due date. Completing the homework is an important part of the course, and will help you better understand the course material.

**Course Policies:** All exams and homeworks are mandatory. Unapproved absence from any exam counts as a zero. No late assignments are accepted. Any late homework receives a score of zero. Original scanned copies of your own homework solutions that you complete yourself are required. You may form homework study-groups (in fact I encourage you to do so), but each student must turn in her/his own homework sets. Each homework set turned in must be unique and original. You are expected to do your own work on the exams; no collaboration allowed. No makeup exams. Any absence from an exam for medical reasons must be documented by your physician. Any other absence from an exam must be approved by me *in advance* in writing.

**All exams and homeworks are covered by the Honesty code of the University of Houston** (see UH Academic Honesty guidelines at URL):

<http://publications.uh.edu/content.php?catoid=30&navoid=11256>

**Course Preparation:** Students should have a working knowledge of multivariate calculus, matrix algebra, formal logic and probability; also be competent in intermediate microeconomics with calculus.

### **Learning Outcomes:**

- Students will learn through lectures, labs, homework, exams and readings to master microeconomic theory to a level that enables students to critically analyze research articles published in leading applied economic theory journals.
- Students will learn the methods of microeconomic theory that, in conjunction with other core classes, will provide the foundation for independent research in many fields of economics.
- Students will develop their mathematical and analytical skills to the level expected in the second graduate microeconomics, Econ 7342, and master microeconomic theory to a level that enables them to pass the Ph.D. qualifying exams in microeconomic theory

**Course Outline (may be revised during the semester)**

<b>Topic</b>	<b>Readings</b>
<b>1. Introduction and Review of Competitive and Monopoly Markets</b>	Math review (on your own): JR & MWG—mathematical appendices; SS ch. 1 Markets: JR ch. 4, NS chs. 12 & 14
<b>2. Producer Theory</b>	
a. Production Technology	JR 3.1-3.2 MWG 5a-5b V ch.1 SB chs. 20 & 21
b. Cost Minimization and Conditional Factor Demands	JR 3.3 MWG 5c-5d V chs. 4 & 5
c. Duality—Technology and Costs	JR 3.4 MWG 5c-5d V ch.6
d. Profit Maximization, Profit Functions and Supply	JR 3.5 MWG 5c-5d V chs. 2 & 3
<b>3. Consumer Theory</b>	
a. Preferences and Utility	JR 1.1-1.2 MWG ch. 1; 3a-3c
b. Consumer Choice and Marshallian Demand	JR 1.3 MWG ch. 2; 3d CW pp.402-418 (Kuhn-Tucker)
c. Indirect Utility, Expenditure Functions and Hicksian Demand	JR 1.4-1.5 MWG 3e
d. Properties of Demands; Duality—Utility and Expenditure, Slutsky Equation	JR 1.5, 2.1-2.2 MWG 3f-3h
e. Individual Measures of Welfare Change	JR 4.3.1
f. Revealed Preference	JR 2.3 MWG 1.2-1.3



<b>4. Consumer Choice under Uncertainty</b>	JR 2.4 MWG ch. 6 Machina (1987)
<b>5. Partial Equilibrium, Efficiency and Welfare</b> Comparing Competitive and Monopoly Outcomes, Pareto Optimality	JR ch.4 MWG ch. 10; 12a-12b
<b>6. Simple General Equilibrium (GE), Efficiency and Welfare in exchange economies</b> Edgeworth Box, Exchange Economies, the Core, Existence of Competitive Equilibrium, Pareto Optimality in GE, Fundamental Welfare Theorems	JR 5.1, 5.2 V ch. 17, 21.1 MWG 15, 16c-f
<b>7. Topics in General Equilibrium</b> Production, Uncertainty, Externalities	JR 5.3, 5.4, V ch.18, 24.4 MWG 16g

*Articles (more may be assigned during the semester):*

Machina, Mark (1987), "Choice Under Uncertainty: Problems Solved and Unsolved,"  
*Journal of Economic Perspectives*, vol. 1:121-154.