San José State University (4/6/2015)
Economics 221,   *Industrial Organization*, Section 1, SP 2015

Instructor:	Matthew Holian, Ph.D.
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Office Hours / Location:**	Tuesday 5-6:00p.m. and by appointment / DMH 131
Lecture Room/ Day/Time:	DMH 166 / Tuesdays / 6:30 to 9:15p.m.
Prerequisites:	ECON 201 and ECON 205a If you have not completed these pre-requisites, I will allow you to enroll in this class as long as you are concurrently enrolled in ECON 103 and ECON 104, or have previously taken these or equivalent courses.

*Email is my preferred form of communication. ** During final exam week, office hours are by appointment only.

Faculty Web Page and Canvas

Canvas is the Learning Management System at SJSU and is where you will be submitting assignments and I will make announcements. Please be sure you can log in and you are receiving my announcements by email. See my Econ 1B syllabus for information on accessing Canvas, or click https://sjsu.instructure.com/ .

Course Description

Industrial Organization (IO) is an Applied Microeconomics field of study. Traditional industrial organization courses, such as ECON 121, focus on topics such as antitrust law and regulation. This course, in contrast, focuses on the theoretical and empirical tools that IO economists routinely use. The first half of the class picks up where ECON 201 leaves off. We develop the **theoretical tools**, such as oligopoly theory, upstream and downstream monopolies, that provide the foundation for IO reasoning. We also study the information technology industry, and the microeconomic theory of auctions, games and asymmetric information. The second half of the class picks up where introductory econometrics courses (ECON 103 and ECON 205a) leave off. We will study important **econometric techniques** used by IO and other applied microeconomists. Some of these econometric techniques (panel data methods, instrumental variables) are also covered in ECON 203. In our curricular structure, our course plays a complementary role, reiterating the material and through applications to the transportation industry. We also cover qualitative choice models in more detail than in other classes.

Course and Program Learning Objectives (CLOs and PLOs)

This course emphasizes three of the five main Program Learning Objectives for our MA programs: microeconomic theory (ECON PLO1), *research methods* (ECON PLO3) and *area of specialization: public policy* (ECON PLO4a). The five specific Course Learning Objectives for ECON 221 include:

CLO1.) Explain core IO theory covered in this class,
CLO2.) Discuss econometric techniques widely used by IO economists,
CLO3) Access data and use software to estimate Travel Demand Models and other econometric models,
CLO4) Interpret econometric models reported in journal articles and relate the findings to economic theory,
CLO5.) Conduct analyses of information technology and transport industries.

CLOs 1, 2 and 4 will be assessed through exams, CLOs 3 and 5 will be assessed through homework.

Required Textbooks

Varian, Hal. Intermediate Microeconomics with Calculus, W. W. Norton & Company, New York, NY. (1st ed.)

Stock, J.H. and Watson, M.W. 2011. Introduction to Econometrics. Pearson, (2nd or 3rd edition)

Notes on required books: I realize these two books are expensive. Luckily, these books are also used in ECON 201 and ECON 205a.

Recommended Textbooks

Angrist, J. D. and Pischke, J. 2014. *Mastering Metrics,* Princeton University Press, Princeton, N.J.

Holt, Charles. *Markets, Games and Strategic Behavior* Pearson

Viscusi, W.K., J.E. Harrington, and J.M. Vernon. *Economics of Regulation and Antitrust*, 4th edition MIT Press

Tirole, J. 1988. *The Theory of Industrial Organization*, MIT Press, Cambridge, M.A.

Notes on recommended books: The 1st book is a fun-to-read paperback that covers many of the same empirical tools we'll study after the idterm. The 2nd book contains useful material on auctions and game theory. The 3rd is available as a free eBook from the SJSU library; it is an undergraduate-level book that covers both theory, empirics, historical, legal and institutional aspects of regulation. The 4th book is the standard graduate-level IO text that is all theory, and provides deep insight on institutions.

Required Computer Software

Students should either have access to STATA or be familiar with or willing to learn another advanced statistical software package (such as R). For information on software programs, see www.sjsu.edu/economics/computerlabs.

Assignments

There will be a midterm and a final exam, and two problem sets. Both exams are with 40 points, and both problem sets are with 10 points. Thus total points on all assignments sum to 100. The first problem set is due to Canvas one minute before the start of the Midterm Review class (on 2/24). The second problem set is due one minute before the start of the last class meeting before the final exam (on 5/12); these days are indicated on the schedule by an "**". Exams are essay format. Students can prepare for the exams by attending lectures, completing the assigned readings, and carefully working through the problem set problems. Some questions will simply be variants of problem set problems, and so students can prepare by modifying and resolving the assigned problems. However, some exam problems will also come from the readings and lecture, and to do well on these, students must take careful notes while reading and while attending lectures. Exams may or may not be open note. Finally, students must prepare to actively participate in the discussion of case studies in the final weeks of the class. To encourage this, I reserve the right to add one or more pop quizzes, not to exceed 10 points (in which case total points would sum to 110). Potential pop quiz days are indicated in the Course Schedule with a " * ". I will use your percent of points earned to determine your final score based on: 100-98 A+, 98-92 A, 92-90 A-, 90-88 B+, 88-82 B, 82-80 B, 80-78 C+, 78-72 C, 72-70 C-, 70-68 D+, 68-62 D, 62-60 D, less than 60 F.

Course Schedule

Date	Lecture Topic	Assigned Reading
January 27	**Introduction to Course**	Varian Ch 16 (Equilibrium) and Varian Ch 25 (Monopoly)
February 3	**Topics in Monopoly**	Varian Ch 26 (Monopoly Behavior) and Varian Ch 27 (Factor Markets)
February 10	**Oligopoly Theory**	Varian Ch 28 (Oligopoly) and Varian Ch29 (Game Theory)
February 17	**Auctions** & **the Information Technology Industry**	Varian Ch18 (Auctions) and Ch36 (IT)
February 24	**Asymmetric Information** & **Midterm Review**	Varian Ch38 (Asymmetric Info)
March 3**	*M i d t e r m*	
March 10*	**Empirical IO and a Case Study in Railroad Cartels**	Varian Ch 17 (Measurement) and Porter, 1983
March 17	**Intro to Models for Categorical Variables**	Stock and Watson, Ch 11
March 24	Spring Break – No Class	
March 31	Caesar Chavez Day – No Class	
April 7*	**Case Study: Travel Demand Modeling**	Koppelman and Bhat, 2006 (first 50pp)
April 14	**Travel Demand Modeling (continued)**	Koppelman and Bhat, 2006 (Ch 5)
April 21	**Panel Data Methods**	Stock and Watson, Ch 10
April 28	**Instrumental Variable Methods**	Stock and Watson, Ch 12
May 5	**Time Series Methods**	Stock and Watson, Ch 14
May 12*, **	**Case Studies, Panel Data and Time Series Methods**	Winston and Maheshri (2007) and Chen et al. (2011)
May 19	*F i n a l E x a m* Tuesday, May 19 6:30p.m.	

Other References

Cowen, A. (2003) "The Effects of Mandatory Seat Belt Laws on Driving Behavior and Traffic Fatalities," *The Review of Economics and Statistics*, 85(4): 828-843.

Porter, R. (1983) "A Study of Cartel Stability: The Joint Executive Committee, 1880-1886," *Bell Journal of Economics*, 14(2): 301-314.

Koppelman, Frank S. and Chandra Bhat (2006) *A Self Instructing Course in Mode Choice Modeling: Multinomial and Nested Logit Models*

Chen, Cynthia, Don Varley and Jason Chen. 2011. What Affects Transit Ridership? A Dynamic Analysis involving Multiple Factors, Lags and Asymmetric Behaviour. *Urban Studies*, July 2011 vol. 48 no. 9

Winston, Clifford and Vikram Maheshri, 2007. "On the social desirability of urban rail transit systems." *Journal of Urban Economics* 62 (2007) 362–382.

Course-Specific Policies

Students are not allowed the use of laptops during lectures. The Course Schedule above is subject to minor change. Should there be any changes, I will announce the changes in class and post an updated version of the syllabus to the web. On days when we discuss Case Studies, you will be expected to have downloaded the articles from Canvas, printed it, read it carefully, and come to class prepared to discuss the article. I do not wish to lecture on Case Study days and I reserve the right to add one or more pop quiz, totaling 10 points, if students are not coming to class prepared to discuss Case Studies.

University Policies

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester's Catalog Policies section at http://info.sjsu.edu/static/catalog/policies.html. Add/drop deadlines can be found on the current academic year calendars document on the Academic Calendars webpage at http://www.sjsu.edu/provost/services/academic_calendars/. The Late Drop Policy is available at http://www.sjsu.edu/aars/policies/latedrops/policy/. Students should be aware of the current deadlines and penalties for dropping classes. Information about the latest changes and news is available at the Advising Hub at http://www.sjsu.edu/advising/.

University Policies (continued)

Academic integrity

Your commitment as a student to learning is evidenced by your enrollment at San Jose State University. The University Academic Integrity Policy S07-2 at http://www.sjsu.edu/senate/docs/S07-2.pdf requires you to be honest in all your academic course work. The Student Conduct and Ethical Development website is available at http://www.sjsu.edu/studentconduct/.

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include your assignment or any material you have submitted, or plan to submit for another class, please note that SJSU's Academic Integrity Policy S07-2 requires approval of instructors.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at http://www.sjsu.edu/aec to establish a record of their disability.