

Instructor:	Matthew Holian, Ph.D.
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Office Hours:	Tuesday and Thursdays, noon-1p.m., and by appointment, in DMH 131
Room/ Day/Time:	DMH 358 / Thursdays / 6:30 - 9:15 p.m.
Prerequisites:	Intermediate Microeconomic Theory and Elementary Statistics

Faculty Web Page and MYSJSU Messaging

This course will make extensive use of Canvas, the Learning Management System at SJSU. See my Econ 1B syllabus for information on accessing Canvas.

Official Course Description

Illustrates how to construct an economic study. Topics include basic statistical methods, cost-benefit analysis, data analysis, other quantitative techniques, literature reviews, and the professional standards of the discipline. Prerequisite: Econ 003 & Econ 101 or instructor permission. This course satisfies the GWAR requirement.

Detailed Course Description

Economics is a discipline of scholarly inquiry. Researchers use the methods of economics to both further the frontiers of scholarly knowledge, as well as to solve practical problems. Economic methods can be qualitative or quantitative. Rather than reviewing economic methods broadly, the goal of this course is to illustrate, as directly as possible, how to construct an original economic study. The most direct route to this end involves applied econometric research. Thus the focus of this course will be on doing research using quantitative empirical methods.

Students will write a term paper focusing on either a practical or scholarly question. After developing a research question, and formulating a hypothesis, the main tasks involved in carrying out an applied econometric study include: identifying and downloading data from the Internet, formatting the data for analysis, analyzing the data using appropriate statistical techniques, and producing tables that summarize the data and report the results of the analysis. The term paper will also survey existing literature that relates to the question. This course demonstrates how to complete these technical tasks using software programs, mainly Excel and Stata.

Because of the importance of statistical analysis for your term paper, as well as for economists more generally, this class also serves as an introductory course in econometric theory. Indeed, this class is the sole required econometrics course for our M.A. program. Students who have had an introductory course in econometrics (such as ECON 103) before will likely find this course to be a very useful review. Generally one course in econometrics does not provide enough exposure to allow one to master the material. Therefore, students who have not had ECON 103 or equivalent before should consider taking ECON 103 concurrently, or even after taking this class. Finally, all students should consider taking our Seminar in Econometric Methods

(ECON 203b), which is a requirement for students in our Applied Economics M.A. tract. Although our course is not a prerequisite for 203b, 203a will nonetheless provide useful preparation for taking it.

Required Textbooks

Angrist, J. D. and Pischke, J. 2014. *Mastering Metrics*, Princeton University Press, Princeton, N.J.
 (You can download the Introduction and Chapter 1 here: <http://press.princeton.edu/titles/10363.html>)

Greenlaw, S. A. 2006. *Doing Economics: A Guide to Understanding and Carrying Out Economic Research*, Houghton Mifflin, Boston, M.A.

Required Computer Software

All students must have installed on their home machines 1.) a spreadsheet program (preferably MS Excel) and 2.) a statistical software package, preferably Stata 13. Students can purchase a six-month license for Small Stata 13 (through www.stata.com/order/new/edu/gradplans) for \$35, though note for this low price, Small Stata imposes severe limitations on users. Thus a one-year license for Stata 13 IC is probably a better option for most students, especially those who will be taking further econometrics courses.

Course and Program Learning Objectives (CLOs and PLOs)

This course emphasizes ECON MA PLO3: *research methods* and PLO4: *communication*. Specific CLOs for this course include: CLO 1.) Explain basic methods in economic statistics and identify correct procedures, and CLO 2.) Prepare a scholarly research paper describing a regression analysis: 2a.) Formulate an interesting and important research question, 2b.) Locate useable data from Internet or other sources 2c.) Search and analyze scholarly literature related to research question, 2d.) Write a literature review, 2e.) Develop a statistical model that can be used with the data to answer a question which contributes to the literature.

CLO1 will be assessed through in-class quizzes and a final exam. CLO2 will be assessed through a term paper.

Assignments

<i>Assignment</i>	<i>Points</i>	<i>Due Dates</i>
3,000 word term paper (due in three phases)	50 (5 points for outline, 15 for draft, 15 for presentation and 15 for final paper)	Outline 10/1, Draft 12/3, Presentation 12/3, Final Paper 12/10
Weekly Quizzes	25	Every week except first and last
Final Exam	12.5	12/10
Assignments	12.5	Announced in class

Detailed rubrics for the writing assignments may be found at the end of this syllabus. The 13 Weekly Quizzes will be based on the readings indicated on the Course Schedule below. Students must read the weekly readings before coming to class, and quizzes will feature both essay and multiple choice questions. I will base your Weekly Quizzes score off your 10 best quizzes; thus students can miss up to 3 quizzes without penalty. Assignments will be announced in class throughout the semester, and the final exam will be based off of the econometric theory presented in Angrist and Pischke (2014).

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) 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 policy requires approval of instructors.

Course Schedule

Date	Topic of lecture	Readings
8/20	Intro to Course	Greenlaw Chs 1 & 2, and Holian (2014)
8/27	Meta-Analysis, Literature Reviews & Cost-Benefit Analysis (CBA)	Greenlaw Chs 3 & 6, Krueger (2003)
9/3	CBA crash course	Fuguitt and Wilcox, Ch 15 & 23 Holian & McLaughlin, pp. 16-27
9/10	Data Management and Statistics Review	Greenlaw, Chs 8-9, Angrist and Pischke, Ch 1 (Appendix)
9/17	Regression for Experiments	Angrist and Pischke, Ch 1
9/24	Academic Writing and Public Speaking	Greenlaw, Chs 4, 5, 7, 10 & 12
10/1	Intro to Regression Analysis	OUTLINE Greenlaw Ch 11
10/8	Regression Anatomy	Angrist and Pischke, Ch 2 (pp. 47-81)
10/15	Regression Anatomy (continued)	Angrist and Pischke, Ch 2 (Appendix)
10/22	More Topics in Regression Fundamentals	TBA
10/29	Instrumental Variables	Angrist and Pischke, Ch 3
11/5	Discontinuity Designs	Angrist and Pischke, Ch 4
11/12	Differences-in-Differences	Angrist and Pischke, Ch 5
11/19	The Wages of Schooling	Angrist and Pischke, Ch 6
11/26	***Thanksgiving – No Class***	
12/3	PRESENTATION, ROUGH DRAFT @ 6:30p.m.	
12/10	FINAL & TERM PAPER	Thursday @ 6:30p.m.

References from Course Schedule

Fuguitt, D. & Wilcox, S.J. 1999. *Cost-Benefit Analysis for Public Sector Decision Makers*. Quorum Books.

Note: This book is available as an eBook through SJSU library

Guerra, E. 2011. "Valuing Rail Transit: Comparing Capital and Operating Costs with Consumer Benefits." *Transportation Research Record: Journal of the Transportation Research Board*, No. 2219, pp. 50–58.

Holian, M. 2014. The Effect of Social and Economic Development on Air Pollution in Indian Cities, *Environment and Urbanization Asia*, March (5), 1-15.

Holian, M. and M. Kahn, 2015. "Household Demand for Low Carbon Public Policies: Evidence from California," *Journal of the Association of Environmental and Resource Economists*, 2(2), 205-234.

Holian and McLaughlin. 2015. "Benefit-Cost Analysis for Transportation Planning and Public Policy: Towards multi-modal demand modeling" manuscript, 7/17/2015 ([available on Canvas](#))

Krueger, A. (2003). Economic considerations and class size. *The Economic Journal*, 113, 34–63.

Other References

Angrist, Joshua D. and Pischke, J. *Mostly Harmless Econometrics* Princeton University Press, Princeton, N.J.

Boardman, Anthony E. et al. *Cost-Benefit Analysis: Concepts and Practice*. Prentice Hall. 4th edition.

Stock, J.H. and Watson, M.W. 2011. Introduction to Econometrics. Pearson, 3rd edition

SJSU Library. 2013. Writing a Literature Review. <https://library.sjsu.edu/video/writing-literature-review-section>

Term Paper Instructions

Read Chapter 10 of (the brief edition) of Stock and Watson’s textbook, “Conducting a Regression Study Using Economic Data,” at: <http://wps.aw.com/wps/media/objects/11422/11696965/stoc2517.ch10.343-350.C1.pdf>
 Follow the instructions detailed in this Chapter. By October 1st you will choose a topic, collect data, and write up an outline that contains your project’s title, five sections with section names, a one sentence research question, and detailed data references. By December 1st you will complete a rough draft of this paper. On December 18th you will submit the final paper.

You have wide latitude in choosing paper topics, but your project must either use cross-sectional or panel regression analysis to test an economic hypothesis, or estimate some quantity (e.g. gross benefits) for use in a benefit-cost analysis.

All papers must have five sections: Introduction, Literature Review and Economic Theory, Description of Data, Empirical Results, and Conclusion, as described in Stock and Watson’s Chapter 10. In addition, all papers must have the following three tables: Variable Descriptions, Summary Statistics, and Regression Results. Finally, all papers must write out and at least one equation describing an empirical model.

For an example of a paper that closely follows this format see Holian (2014).

Rubrics for evaluating Outlines, Rough Drafts and Term Papers

Criteria	Description of Criteria for Outlines
<i>Topic</i> (1 point)	A specific research question must relate to a relevant economics literature and data must be available to shed light on the question.
<i>Data</i> (2 points)	Can the reader gain a clear picture of the data source and the measures contained in it? Can the reader easily access your data and identify the variables to be used?
<i>Organization</i> (2 points)	Does it appear the student read and understood Chapter 10 of SW (Brief Edition?)

Criteria	Description of Criteria for Rough Drafts and Term Papers
<i>Organization</i> (up to 5 pts)	Is the Research Question clearly stated? Are there five sections? Are sections given correct titles? Does content of section match titles? Is there a title and an abstract?
<i>Grammar</i> (up to 5 pts)	Does each paragraph have a topic sentence? Do all sentences develop one controlling idea? Does paper use appropriate grammar (punctuation, syntax, usage)? Is the paper free of spelling errors? Are citations used appropriately?
<i>Style</i> (up to 2.5 pts)	Does paper avoid the passive voice? Does paper avoid use of the word "stated"? Does paper avoid split infinitives? Overall, is the writing style and voice appropriate? Does it appear the student read Langlois’ notes on writing? http://web.uconn.edu/langlois/writing/style.html
<i>Content I</i> (up to 6 pts)	A specific research question must relate to a relevant economics literature and data must be available to shed light on the question.

<p><i>Content II</i> (up to 6.5 pts)</p>	<p>The student must obtain data, estimate econometric models and present the results in an easy to read format, and highlight strengths and limitations of the econometric model, and suggest directions for future research.</p>

Other 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](http://info.sjsu.edu/static/catalog/policies.html) 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](http://www.sjsu.edu/provost/services/academic_calendars/) at http://www.sjsu.edu/provost/services/academic_calendars/. The [Late Drop Policy](http://www.sjsu.edu/aars/policies/latedrops/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](http://www.sjsu.edu/advising/) at <http://www.sjsu.edu/advising/>.

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](http://www.sjsu.edu/aec) (AEC) at <http://www.sjsu.edu/aec> to establish a record of their disability.