

San José State University (8/21/2018)

Economics 203A, *Economic Research Methods*, Section 1, FA 18

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Office Hours:	Tuesdays and Thursdays, 4-4:15p.m. & 6-6:15p.m., & by appointment
Room/ Day/Time:	CCB 100 / Tuesdays / 6:30 - 9:15 p.m.
Prerequisites:	Intermediate Microeconomic Theory and Elementary Statistics

Learning Management System

Canvas is the Learning Management System at SJSU. Please be sure you can log in and are receiving my announcements. Although I will be communicating with the class through Canvas, if you have an individual question for me, *please email me directly*. For info on accessing Canvas visit <https://sjsu.instructure.com>.

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 further the frontiers of scholarly knowledge, and to solve practical problems. Economic research methods can be qualitative or quantitative, theoretical or empirical, and “mixed-method” approaches are by definition in-between. Although this course touches on economic research methods broadly, the main goal of this course is to illustrate, as directly as possible, how to construct an original *econometric* study.

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 obtaining data, formatting the data for analysis, analyzing the data using appropriate statistical techniques, and producing and describing tables that summarize the data and report the results of the analysis. The term paper will also survey existing theoretical and empirical literature on the question.

Because of the importance of statistical analysis for your term paper, as well as for economists more generally, this class serves as an introductory course in econometrics. 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 useful review, as well as a much deeper dive into the mathematics of regression. ECON 203a will provide excellent preparation for taking ECON 203b (Seminar in Econometric Methods), which is a requirement for students in our Applied Economics M.A. tract. Finally, students should be aware that the class paper for ECON 205 (Policy Analysis Workshop) serves as one of the culminating experiences in our M.A. program, and in the past students have found that this course (ECON 203a) was excellent preparation for 205.

Grading and Classroom Policy

This is a 3-unit course. The grading scale is: 60-62, D-, 62-68, D, 68-70, D+, 70-72, C-, 72-78, C, 78-80, C+, 80-82, B-, 82-88, B, 88-90, B+, 90-92, A-, 92-98, A, 98-100, A+. I generally don't allow makeup assignments unless there is sufficient notice and a very well justified and documented reason. Disruptive use of laptops during class and food that emits externalities are not allowed.

Required Textbooks

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

Any recent edition is suitable. See also the publisher's Student Resources page: http://wps.aw.com/aw_stock_ie_3/178/45691/11696965.cw/

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

Resources: www.mastermetrics.com ; Intro and Chapter 1 are available here: <http://press.princeton.edu/titles/10363.html>

3.) Sundstrom, William A. and Michael J. Kevane. 2017. *Guide to R: Data analysis for Economics*.

This is available as a free PDF document (at <http://rpubs.com/wsundstrom/home>) It answers most of the typical R questions students in an introductory econometrics course, and it covers examples from Stock and Watson.

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 (either R and R Studio or Stata). See Sundstrom and Kevane (2017) on downloading R and R Studio; Stata must be purchased through www.stata.com.

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 homework and exams. 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)	40 (5 for outline, 5 for draft, 7 for presentation, 3 for script & 20 for final)	Outline 10/2, Draft 11/13, Presentation 11/27 or 12/4, Final Paper 12/18
Homework Assignments	20	Most weeks except first and last
Midterm Exam	15	9/25
Final Exam	25	12/18

Detailed rubrics for the writing assignments may be found at the end of this syllabus. Homework will be assigned in class and students will submit assignments on Canvas. The Midterm and (comprehensive) Final exam cover material from the required readings and homework assignments.

Academic integrity

Cheating on exams or plagiarism (presenting the work of another as your own) will result in a failing grade and sanctions by the University, and faculty members are required to report all infractions.

Course Schedule

Date	Topic of lecture	Readings
8/21	Intro / Statistics Review	SW Ch 1 & AP Ch 1 (esp. pp. 33-46)
8/28	Stats Review continued	SW, Ch 2-3
9/4	Literature Review, Meta Analysis and Policy Analysis	SJSU Library (2013) & Krueger (2003)*
9/11	Intro to Regression Analysis and Linear Probability Models	SW Chapters 4 & 5 and Section 11.1
9/18	Regression Theory	SW Appendix 4.1-4.3 & 5.1-5.2
9/25	MIDTERM EXAM	
10/2	Multiple Regression OUTLINE	SW Ch 6
10/9	Multiple Regression cont.	AP Ch 2 (esp. pp. 82-97)
10/16	Multiple Regression cont.	SW Ch 7 & Appendix 7.2
10/23	Nonlinear Regression Models	SW Ch 8
10/30	Critical Assessment: Regression models & econometrics pedagogy	SW Ch 9 & Angrist and Pischke (2017)**
11/6	Regression Theory	SW Ch 17
11/13	Regression Theory cont. ROUGH DRAFT	SW Ch 18
11/20	Intro to Qualitative Social Science Methods / Review / Catch-up	TBA
11/27	PRESENTATIONS	
12/4	PRESENTATIONS SCRIPT	
12/18	FINAL & TERM PAPER Tuesday @ 6:30p.m.	SW Ch 4-9, Section 11.1, & AP Ch 1-2

* Krueger, A. (2003). Economic considerations and class size. *The Economic Journal*, 113, 34–63. And, SJSU Library. 2013. Writing a Literature Review Section. <https://library.sjsu.edu/video/writing-literature-review-section>

** Angrist, Joshua D., and Jorn-Steffen Pischke. 2017. "Undergraduate econometrics instruction: through our classes, darkly." *Journal of Economic Perspectives*. 31.2: 125-144.

Term Paper Instructions

You will write a term paper that replicates and extends a previously published article. You will be assigned to replicate one of the studies posted to Canvas (under Files > PDFs > Candidates for Replication.) All of these studies use microdata from American Community Survey (ACS). We will cover accessing the ACS data in class; see also do_file_5_19_2018v2

By October 2nd you will write up an outline that contains your project’s title, five sections with section names, a one sentence research question, and a detailed data reference. In your outline, list 10 studies you plan to review in the Literature Review section, noting which of the ten studies provides the single best discussion of the estimation of the causal effect of interest, with a note explaining why. In addition, include the regression equation (with variable names) you’re replicating (indexing variables to make it clear what is the unit of observation), and an idea for extending the model. On 11/27 or 12/4 you will make a short presentation, using slides. The draft is due 11/13 and final paper 12/18.

Given you will be assigned a paper to replicate, you don’t have much latitude in choosing paper topics, but after replicating one model from the published paper, you can extend the analysis in any way you like, as long as you attempt to estimate a causal effect of relevance to economic theory, and in the conclusion discuss at least one possible way in which some quantity you estimate in your study can be used in a policy or benefit-cost analysis.

All papers must have five sections: Intro, Literature Review & Economic Theory, Description of Data, Empirical Results, and Conclusion, as described in Stock and Watson’s Brief Edition Chapter 10 (see on Canvas Files > PDFs). Sections will be about five paragraphs in length and each paragraph about five sentences. This “5x5” suggestion is a rule-of-thumb and need not be followed exactly. However papers must have these three tables: Variable Descriptions, Summary Statistics, and Regression Results. Original figures are encouraged; copied figures are prohibited. Tables must be formatted exactly as described in class and References (in a Bibliography section) must be in APA format. Finally, all papers must write out and at least one equation describing an empirical model in appropriate notation.

Criteria	Description of Criteria for Rough Drafts and Term Papers
<i>Organization</i> (15%)	Is the Research Question clearly stated? Are there five sections? Are sections given correct titles? Does content of a section match its title? Is there a title and abstract? References?
<i>Grammar</i> (15%)	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> (15%)	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 contemporary and seminal studies and is it written in the style of the profession? Does it appear the student read Langlois' notes on writing? http://web.uconn.edu/langlois/writing/style.html *
<i>Content I</i> (25%)	The replication - The student must obtain data, and successfully estimate at least one econometric model that was published in a scholarly book or journal. Present the results in an easy to read format, and highlight whether the replication was successful or not, and the strengths and weaknesses of the replicability of the model.
<i>Content II</i> (30%)	The extension - A specific causal research question must relate to a relevant economics literature and the data must be used to shed light on the question. The literature review must be integrated and not merely an annotated bibliography, and it must discuss ways the state-of-the art studies handle well-defined econometric problems (such as OVB) and suggest directions for future research. The conclusion must give at least a serious nod to policy analysis.

*For more on style, students should also consult Strunk, William. *The elements of style*. Penguin, 2007. Economical Writing by Deirdre McCloskey (1999) is also highly recommended. However the best way to learn the style of economic writing is to read economic writing; which suggests you should try to actually read the journal articles and book chapters you review in your literature review section, not just the abstracts.

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>"

References (Candidates for replication)

- Altonji, J. G., & Blank, R. M. (1999). Race and gender in the labor market. *Handbook of labor economics*, 3, 3143-3259.
- Amuedo-Dorantes, C., Arenas-Arroyo, E., & Sevilla, A. (2018). Immigration enforcement and economic resources of children with likely unauthorized parents. *Journal of Public Economics*, 158, 63-78.
- Blau, F. D., Kahn, L. M., Brummund, P., Cook, J., & Larson-Koester, M. (2017). Is There Still Son Preference in the United States? (No. w23816). National Bureau of Economic Research.
- Chiswick, Barry R., and Marina Gindelsky. "Determinants of bilingualism among children: an econometric analysis." *Review of Economics of the Household* 14.3 (2016): 489-506.
- Joice, P. (2014). Measuring housing affordability. *Cityscape*, 16(1), 299-308.
- Kostandini, G., Mykerezi, E., & Escalante, C. (2013). The impact of immigration enforcement on the US farming sector. *American Journal of Agricultural Economics*, 96(1), 172-192.
- Marshall, M. I., & Flaig, A. (2014). Marriage, children, and self-employment earnings: an analysis of self-employed women in the US. *Journal of Family and Economic Issues*, 35(3), 313-322.
- Modarres, A. (2011). Polycentricity, commuting pattern, urban form: The case of Southern California. *International Journal of Urban and Regional Research*, 35(6), 1193-1211.
- Rickman, D. S., Wang, H., & Winters, J. V. (2017). Relative Teacher Salaries and the Decision to Teach. *Contemporary Economic Policy*, 35(3), 542-550.
- So, K. S., Orazem, P. F., & Otto, D. M. (2001). The effects of housing prices, wages, and commuting time on joint residential and job location choices. *American Journal of Agricultural Economics*, 83(4), 1036-1048.
- Sjoquist, D. L., & Winters, J. V. (2015). State merit-based financial aid programs and college attainment. *Journal of Regional Science*, 55(3), 364-390.
- Sjoquist, D. L., & Winters, J. V. (2015). State merit aid programs and college major: A focus on STEM. *Journal of Labor Economics*, 33(4), 973-1006.
- Sturtevant, L. (2014). The new District of Columbia: what population growth and demographic change mean for the city. *Journal of Urban Affairs*, 36(2), 276-299.
- Walker, K. E. (2016). Baby boomer migration and demographic change in US metropolitan areas. *Migration Studies*, 4(3), 347-372.
- Winters, John V. (2017). Do Earnings by College Major Affect Graduate Migration? *The Annals of Regional Science*, 59(3), 629-649.
- Wong, S., Miles, D., Connor, G., Queenan, B., & Shott, A. (2017). Residential Demographic Multipliers: Using Public Use Microdata Sample Records To Estimate Housing Development Impacts. *Cityscape*, 19(3), 415-428.