Instructor/Email/Phone*:	Matthew Holian, Ph.D / Matthew.Holian@sjsu.edu / 408-924-1371
Office Hours* / Location:	Wednesdays, 3:45-4:15p.m., and by appointment / DMH 131
Lecture Room/ Lab Room	NA -- This is an online class with no physical meeting location
Prerequisites:	STAT 95 or other three-unit intro statistics class

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

Faculty Web Page, Canvas and Communication Issues

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.

Course Description

This course is designed to complement and add to a three-unit, traditional statistics class. All economics students require a solid foundation in statistics. In this course, students will use actual data to conduct original statistical analysis. The class will not meet physically and all assignments and announcements will be through Canvas. Please pay close attention to announcements and deadlines.

Course and Program Learning Objectives (CLOs and PLOs)

This course emphasizes three PLOs: *research methods* (ECON PLO3), *quantitative methods* (PLO4d), and *communication* (PLO5). The five specific Course Learning Objectives for ECON 180 include:
CLO 1.) Explain core methods in statistics and identify correct procedures. CLO 2.) Access data and use computer software to carry out statistical tests. CLO 3.) Interpret statistical tests estimated with computer software. CLO 4.) format data to be read by regression software, and develop, estimate and interpret an original statistical test to shed light on a problem of social importance. CLOs 1, 2 and 3 will be assessed with weekly lab assignments, and CLO 4 by a term paper.

Textbooks

Angrist, J. D. and Pischke, J. 2014. *Mastering Metrics,* Princeton University Press, Princeton, NJ.
(You will need Chapter 1 only, which can be downloaded at the following link: http://press.princeton.edu/titles/10363.html)

You may wish to reference the introductory statistics book you used in your previous statistics course; if you do not have one, Illowsky, B. and Dean, S. 2016. *Introductory Statistics*, Open Stax Press, Houston, TX can be Downloaded at https://openstax.org/details/introductory-statistics.

Required Computer Software

All students should have installed on their home machines a spreadsheet program, preferably MS Excel

Assignments and Grading

Total points on all assignments sum to 25. Passing this class requires earning at least 10 Weekly Lab Assignment points AND at least 6 Term Paper points. In the table below you will find the total points associated with these assignments. Explanations for each of these assignments follow the table.

Assignment	Points	Due Dates
Weekly Lab Assignments	**15** (1 point each)	Fridays @ 5:00p.m.
Term Paper	**10**	Final Paper 5/15

Weekly Lab Assignments

The Lab Assignments are designed to give you experience using computer software and carrying out statistical tests, and exploring statistical concepts discussed in selected textbook readings, with actual data. Points on these Lab Assignments are relatively easy to earn; if you make an honest attempt at them, and submit them before 5:00p.m. on Fridays, you will usually earn most of if not the entire point. Late assignments are accepted for partial credit on a case by case basis. Descriptions for weekly assignments are found on Canvas. Answers, when available, will be provided on Canvas. Please compare your answers with the those provided; as an online course, students must be self-directed in identifying and remedying deficiencies in their understanding.

This class is roughly divided in three portions. In the first few weeks, students will read the first 50 pages of *Mastering Metrics*. This chapter, and especially the Appendix, contains a thorough yet concise review of important statistical concepts students learn in basic statistics courses. To ensure active reading, students will be required to submit weekly summaries of the readings, as well as specific answers to some questions based on the readings. After we have read MM Ch 1, we will focus more on problems analyzing actual data using MS Excel, as well as simpler problems using basic calculators. A major focus will be on understanding and carrying out the "difference in means" test. Finally, the third portion of the class will move from answering well-posed questions, to preparing students to do original statistical analysis. Problems will require students to become familiar with the American Community Survey data, and to select and prepare data from it for analysis. Students will also review the scholarly literature on their chosen topic, and describe and interpret relevant statistical findings from these studies. At the end of the term students will submit a mini-term paper which will present an original difference-in-means test, and compare and contrast the findings with previously published literature.

Term Paper

Students will carry out an original statistical analysis on a question of practical or scholarly importance, using data from the American Community Survey that the student will download as part of a lab assignment. After developing a research question, and formulating a hypothesis, the main tasks involved in carrying out an applied statistical study include: identifying formatting the data for analysis, analyzing the data using a difference in means test, and producing tables that summarize the data and report the results of the analysis. The term paper will also briefly survey econometric literature and describe economic theory that relates to the question. All papers must have five sections with the following section titles: Introduction, Literature Review and Economic Theory, Description of Data, Empirical Results, and Conclusion. In addition, all papers must have the following three tables: Variable Descriptions, Summary Statistics (these appear in the Description of Data chapter), and Difference-in-Means Test Results (this table will appear in the Empirical Results section.) These tables must be formatted exactly as described on Canvas. Students will see an example of the type of tables that satisfy the requirements in one or more Weekly Lab Assignments. Please do not hesitate to ask if you are unsure of any of these requirements.

Economics Departmental Policies

Policy for Waiving the One Unit Statistics lab (Econ 180) **(Rev. Feb. 15, 2017)**

Economics 3 is a four-unit class in Introductory Statistics and Probability Theory, consisting of three units lecture and one unit computer lab. Majors may substitute a statistics class from another institution or another course on campus to cover the three units of the course but may not count this toward the computer lab. In place of the one unit computer lab component, students may take a one unit independent study (Econ 180) to complete the computer projects or can waive the requirement by taking Econ 103 (and earning at least a grade of C). Students taking Econ 103 will need to submit a substitution/waiver form to be signed by an advisor and the department chair. The requirement will not be waived until a grade in Econ 103 has been awarded.

(Please note: While this class can be waived as a requirement for fulfilling the major, there is no way to waive the total number of units (120) needed for graduation as required by the university.)

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/.

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.