Ruxandra Boul, PhD
Department of Economics
San Jose State University

ECON 203A: Economic Research Methods, Fall 2023

INSTRUCTOR:	**Ruxandra Boul, Ph.D**.
OFFICE LOCATION:	DMH 144
CLASSROOM:	DMH 166
EMAIL:	**ruxandra.boul@sjsu.edu** (Expect a reply in less than 24 hours, during the weekdays. You will most likely not receive a reply over the weekend).
OFFICE HOURS:	**Wednesday, 5-6 pm** (PST) in my office and/or by appointment, via Zoom. Link: https://sjsu.zoom.us/j/2598716456 .
PREREQUISITES:	**Prerequisite(s):** ECON 3 & ECON 101

CLASS RESOURCES

Class Resources Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on Canvas Learning Management System course login website at http://sjsu.instructure.com.

COURSE DESCRIPTION

Illustrate how to construct an economic study. Topics include statistical methods, data analysis, other quantitative techniques, literature reviews, and the professional standards of the discipline.

COURSE LEARNING OUTCOMES (CLOs)

Upon successful completion of this course, students will be able to:
1. Explain basic methods in economic statistics and identify correct procedures
2. Prepare a scholarly research paper describing a regression analysis
  a. Formulate an interesting and important research question
  b. Locate usable data from Internet or other sources
  c. Search and analyze scholarly literature related to research question
  d. Write a literature review
  e. Develop a statistical model that can be used with the data to answer a question which contributes to the literature

COURSE MATERIALS:

1. Stock, James H. and Mark W. Watson. Introduction to Econometrics. (Boston: Pearson. 2011). Third Edition. The PDF of the book is available on Canvas.
2. Sundstrom, William A. and Michael J. Kevane. Guide to R: Data Analysis for Economics. 2017. The PDF of the book is available on Canvas.

3. Matthew J. Holian, 2021. "Data and the American Dream," Springer Books, Springer. The PDF of the book is available on Canvas.

I will assign supplementary readings through the course's Canvas website, the MLK Library or other websites.

SOFTWARE

The class will use R software. You will have to download and install R, available at https://cran.r-project.org/ and Rstudio, available at https://www.rstudio.com/products/rstudio/download/ (the free Rstudio Desktop version)

GRADING

- Problem Sets (6)   (30%)
- Quizzes   (10%)
- Exam   (20%)
- Term Paper   (40%)

I follow the standard grading scale:
97-100   A+   93.0-96.9 A   90.0-92.9 A-
87.0-89.9 B+   83.0-86.9 B   80.0-82.9 B-
77.0-79.9 C+   73.0-76.9 C   70.0-72.9 C-
67.0-69.9 D+   63.0-66.9 D   60.0-62.9 D
Below 60 F

However, there may be an adjustment (curve) of the grade distribution at the end of the semester. Individual homeworks or exams will not be curved.

Exams: There will be an in-class exam. The exam is open-book and open notes. The date is listed below, in the outline.

Problem Sets: There will be 6 problem sets. They are due on **Tuesdays, 11:59 pm** (the dates are listed in the outline, below). Students are allowed to work together on problem sets; however, all write-ups must be done individually. If two or more identical assignments are submitted, failing grade for that assignment will be given to the students submitting identical assignments.

- Penalty for submitting late homework: 10% for a homework submitted on Wednesday and 20% if submitted on Thursday. Homeworks submitted after Thursday, 11:59 pm, will receive a grade of "0".

Quizzes: They are due on **Sunday, 11:59 pm** (the dates are listed in the outline, below). The quizzes can be taken 2 times and the highest grade will be posted in Canvas.

- Penalty for submitting a late quiz: 10% for a quiz submitted on Monday and 20% if submitted on Tuesday. Quizzes submitted after Tuesday, 11:59 pm, will receive a grade of "0".

Term Paper[1]

You will write a term paper that replicates and extends a previously published article. A list of replication candidates will be available on Canvas. If you do not find a paper to your interests on the list, you are free to look for other economics paper data from a major publicly available dataset (i.e., ACS, historical US Censuses, National Longitudinal Study of Youth). Be sure the paper does not use a combination of public and private. All papers outside of the Candidates List will need professor approval.

By **October 8th**, students need to provide a copy of the paper they intend to replicate and a list of data sources used in the paper. An outline that contains your project's title, five sections with section names, a one sentence research question, and a detailed data reference is due on **October 22nd**. In your outline, list a minimum of 5 studies you plan to review in the Literature Review section. In addition, include the regression equation (with variable names) you are replicating (indexing variables to make it clear what is the unit of observation), and an idea for extending the model. On **October 25th**, you will present the paper from your list of five (or more) that provides the best estimate of the causal effect and explain why the paper was superior. The rough draft is due on **November 19th.** Final presentations will occur on **November 29th**. The final draft is due on **December 6th**.

All papers must have five sections: Introduction, Literature Review & Economic Theory, Description of Data, Empirical Results, and Conclusion. 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 as least one equation describing an empirical model in appropriate notation.

Important information!
•   There will be no makeup exam. Please make your travel plans accordingly.
•   Cheating on exams will result in an automatic F for the entire course.
•   I do not offer extra credit work to an individual student.

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[1] This section borrows heavily from Professor Holian's Econ 203A syllabus.

COURSE OUTLINE

Date:	Topic	Assignments and due dates
Week 1: August 23	Syllabus and Introduction Statistics: Data, Descriptive Statistics, Types of variables, Intro to R software, Case Study	Quizzes: Due Sunday August 27th, 11:59 pm PS1: Due Tuesday August 29th, 11:59 pm
Week 2: August 30	OLS: What is OLS? Regression, Interpret and derive coefficients, Residuals, Predictions, Goodness of fit, Examples	Quizzes: Due Sunday September 3rd, 11:59 pm PS2: Due Tuesday September 5th, 11:59
Week 3: September 6	OLS: Probability distribution, Central Limit Theorem, Hypothesis Testing T-tests, P-values, Confidence intervals	Quizzes: Due Sunday September 10th, 11:59 pm PS3: Due Tuesday September 12th, 11:59
Week 4: September 13	OLS: Omitted variable Bias, Multicollinearity	Quizzes: Due Sunday September 17th, 11:59 pm PS4: Due Tuesday September 19th, 11:59
Week 5: September 20	OLS: Heteroskedasticity, Serial Correlation Discuss replication candidates	Quizzes: Due Sunday September 24th, 11:59 pm PS5: Due Tuesday September 26th, 11:59
Week 6: September 27	Dummy variables, Functional form, Linear probability Model	Quizzes: Due Sunday October 1st, 11:59 pm PS6: Due Tuesday October 3rd, 11:59
Week 7: October 4	Data Management Discuss Term Paper Exam Review	**Paper that you intend to replicate:** **Due Sunday October 8th, 11:59 pm**
Week 8. October 11	**Exam – in class**	
Week 9. October 18	Assessing studies based on multiple regression	**Outline: Due Sunday October 22nd, 11:59 pm**
Week 10. October 25	**Presentation of a paper from the Literature Review**	
Week 11. November 1	How to write a research paper	
Week 12. November 8	Data Analysis and Interpretation of Results	
Week 13. November 15	How to create an effective presentation	**Rough Draft: Due Sunday November 19th, 11:59pm**
Week 14. November 22	Thanksgiving break	
Week 15. November 29	**Final presentations**	
Week 16: December 6		**Final Paper Due**

Note: This outline is subject to change.

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 https://catalog.sjsu.edu/index.php Add/drop deadlines can be found on the current academic year calendars document on the Academic Calendars webpage at https://www.sjsu.edu/provost/resources/academic-calendars/index.php. The Late Drop Policy is available at https://www.sjsu.edu/ue/student-petitions/drops/index.php. 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/.

Consent for Public Sharing of Instructor Material
Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.

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. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. 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 at http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf 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. In 2013, the Disability Resource Center changed its name to be known as the Accessible Education Center, to incorporate a philosophy of accessible education for students with disabilities. The new name change reflects the broad scope of attention and support to SJSU students with disabilities and the University's continued advocacy and commitment to increasing accessibility and inclusivity on campus.