Department of Criminal Justice and Criminology

CRIJ 6394-01

Statistics for Criminal Justice Research II

Fall 2017

Professor: H. Daniel Butler

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Class Hours: Wednesday 1:30-3:50pm

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Classroom: A205 - George J. Beto Criminal Justice Center

Office Hours: Monday/Wednesday 9:30-10:45am and by appointment

Required Textbooks:

Long, J. S. (1997). *Regression models for categorical and limited dependent variables*. Thousand Oaks, CA: Sage Publications Inc.

Long, J. S., & Free, J. (2014). Regression models for categorical dependent variables using Stata. 3rd Edition. College Station, TX: Stata Press.

• Some articles will also be uploaded to Blackboard. Please download and read the requested articles when instructed by the professor.

Required Materials:

Stata/IC, Stata/SE, or Stata/MP are required for this class. These different versions of Stata are available for pepetual use or they can be rented. These versions of Stata differ in the amount of observations that are permitted in a dataset, and they also differ by the number of processor cores that are used to analyze data. Students should not rent or purchase "small Stata" as it does not provide enough observations that would be useful for future research. More information (pricing and purchasing instructions) for each of the Stata versions can be found at the following website: http://www.stata.com/order/new/edu/gradplans/student-pricing/

Students must purchase or rent a version of Stata that can be used to complete the homework assignments. Please purchase or rent one of the approved Stata packages as soon as possible. Please let me know immediately if you have any questions about purchasing Stata.

Students will also need to download and install Dropbox, a free file hosting application, that will allow students to upload homework assignments (i.e., Stata do files and Microsoft Word documents).

Course Description:

The course is designed to provide an understanding of regression models for categorical and limited dependent variables. This includes, but is not limited to, a refresher of linear regression models, and potential issues that arise with nonlinear outcomes. Students should have a mastery of the conceptual and theoretical reasons regarding the appropriate use of various regression models that includes logistic, ordinal, nominal, limited, and other count models. Students should be able to synthesize and better understand empirical research across a variety of disciplines by understanding how nonlinear distributions influence model specification and findings. Together, these concepts will help students prepare for careers that may require an advanced understanding of research design and data management.

Course Learning Objectives:

Students that successfully complete the course should be able to:

- 1. Describe and understand nonlinear distributions.
- 2. Understand the use and application of various alternatives to ordinary least-squares regression (e.g., logistic, nominal, ordinal, etc.).
- 3. Analyze empirical research that will strengthen an understanding of research methodology.
- 4. Describe data, develop strategies to "clean" data, and analyze data by use of statistical programs.
- 5. Apply what is learned throughout the class by writing portions of a manuscript.

Course Requirements and Grading:

Students are expected to read the assigned material and come to class prepared to discuss the relevant readings. The structure of the class is lecture/discussion in addition to practicing Stata together in class. Reading the assigned material is essential in performing well throughout the semester. Students' grades will be based on three exams and 9 homework assignments.

Grading:

Topic Proposal & Literature Review Sections	5 points
Methods Section	5 points
Results Section	10 points
Discussion & Conclusion Sections	10 points
Final Paper Submission (Combined Sections)	30 points
Presentation	20 points
Homework (5 assignments each worth 4 points)	20 points
Course Total	100 points

Homework Assignments (worth a total of 20% of the final grade):

Homework assignments will be submitted prior to the start of class the week the assignment is due, and students will use Stata to analyze data and report findings. For instance, one homework assignment may task students with developing research questions and preparing data for analysis. All assignments must be completed in Microsoft Word and all statistical commands must be reported in a Stata do file. Students will submit Stata do files in addition to the written

assignment prior to the start of class to Dropbox. Dropbox is a free program that hosts files on the cloud, which permits easy access to files across different computers.

Project (worth a total of 80% of the final grade):

In order to complete the project, students will need to find a dataset that has variables capable of being included in various multivariate regression models. Students will be required to examine several outcomes for the project (e.g., dichotomous and count outcomes). If students are unable to find a dataset that meets these requirements, they should immediately schedule a meeting with the professor to find a dataset that will meet the requirements to complete the described project.

Students will apply the material learned throughout the semester by submitting various parts of a project that comprise a completed methods, results, and discussion section of a manuscript. At the end of the semester, students will submit a completed project that includes a literature review, methods, results, and discussion/conclusion section that simulates submitting a manuscript for a peer-reviewed journal that adheres to APA formatting. Students will also provide a 15 minute presentation of their submitted project.

First, students will submit a topic proposal and literature review section. In the topic proposal, students will describe the data that will be used to answer a research question. Students <u>should</u> <u>not answer more than two research questions for this project</u>. In particular, students will identify the outcomes that will be included in their final project. Students should use outcomes that can be treated as continuous or binary (i.e., dichotomous) measures, so they can practice different regression analyses learned throughout the semester. Students should also describe the target population of the study (e.g., male sex offenders). Students <u>do not</u> need to describe any planned analyses, etc. This information will be provided in the methods section. After describing the data, students should provide a three-page literature review that is directly related to the proposed research questions.

Second, students will submit a methods section that will describe the sample, measures, and analytical strategy for the proposed project. The analytical strategy section of the methods must include two different regression analyses learned throughout the semester (e.g., logistic and ordinal regression or poisson and logistic regression). Students must justify the rationale behind the use of these regression models. In the methods section, students should also include a descriptives table of the variables that will be included in the paper.

Third, Students will submit a results section. The results section should include the results from the regression models proposed in the analytical strategy section of the methods. In particular, students should present tables that include the findings in addition to describing the findings from the tables.

Fourth, students will submit a discussion and conclusion section. The discussion and conclusion section will contextualize the study findings for readers. Students should describe the findings in greater detail as the findings relate to theory and practice. Students should also provide recommendations for future research and conclusion paragraph.

Finally, students will revise the earlier sections based on feedback from the professor and combine the sections of the project into one final document. Students will then present the final project to the class and professor by use of PowerPoint that contains relevant information from the study. The presentation should not exceed 15 minutes. The final project and PowerPoint

presentation should be uploaded to the corresponding student Dropbox Folder before the start of class on December 6, 2017.

A rubric will be available on Blackboard that describes the grading criteria for each section, the final submission, and the class presentation. Students <u>are not allowed to use research questions</u> that have been answered in an earlier class, research assignment with a faculty member, or a research question that is being answered in their thesis. The entirety of this project must include original work that has not been presented at a conference or course project.

Make-Up Assignment Policy:

For missed assignments, there will be NO late submissions in the absence of an extreme documented medical or personal emergency. In the case of such an emergency, I must be notified prior to the date of the exam. If early notification is not possible, please make sure that you contact me as soon as you are safely able to do so. Early notification and/or proper documentation does not necessarily guarantee that a late submission will be granted. This decision will be at my discretion.

Make-up Exam Policy:

For missed exams, there will be NO make-up exams in the absence of an extreme documented medical or personal emergency. In the case of such an emergency, I must be notified <u>prior</u> to the date of the exam. Students must also obtain an excused absence from the Office of the Dean of Students, but early notification and/or proper documentation <u>does not</u> necessarily guarantee that a make-up exam will be granted. This decision will be at my discretion, and the make-up exam will differ from the exam that is given to the class. In other words, the make-up exam will differ in structure, and the questions themselves will be different.

Attendance Policy:

In accordance with Academic Policy Statement 800401, attendance will be taken regularly. Although attendance is not mandatory, please remember that your attendance is necessary to succeed in the class by taking notes and learning the class material. Therefore, I strongly recommend students attend class regularly to succeed. If you are unable to attend class, you are responsible for obtaining any information/material that you may have missed. Do not ask for my notes from any class that you missed. I will not, under any circumstances, give out my lecture notes.

Religious Holy Day Policy:

In accordance with SHSU policy 861001, students who wish to be absent from class on a religious holy day may provide a written statement to the professor concerning their absence. For a complete list of the university policy, see: http://www.shsu.edu/~vaf_www/aps/documents/861001.pdf

Academic Etiquette:

In this class, you are required to conduct yourself in an appropriate, responsible, and professional manner. Disruptive behavior (in the form of arriving late/leaving early, private discussions with other students, cell phones, text messaging, disruptive newspaper reading, etc.) is not appropriate

and will not be tolerated in this course. Students are expected to be respectful of others and when another student is speaking, do not interrupt that student. Please raise your hand if you have a question during class.

Academic Honesty:

Academic dishonesty in the form of cheating, falsification, fabrication, multiple submissions, plagiarism, and abuse of academic materials will not be tolerated. Students caught exhibiting such behavior will receive a failing grade in the course. If you have any questions with regard to what constitutes academic dishonesty (e.g., what is plagiarism/cheating?), please see me. For a complete listing of the university policy, see:

http://www.shsu.edu/dept/academic-affairs/documents/aps/students/861001.pdf

Use of Telephones and Text Messages In Academic Classrooms and Facilities:

The use of electronic devises for telephone calls and text messaging during class-time is prohibited. Arrangements for handling potential emergency situations may be granted at my discretion. If you know that you are going to receive a call/text message regarding an emergency situation during this class, you must let me know before class begins. Failure to comply with this policy can result in expulsion from the classroom or with multiple offenses, failure of the course.

Any use of a telephone or text messager or any device that performs these functions during a test period is prohibited. These devices should not be present during a test. They must be stored securely in such a way that they cannot be seen or used by the student. EVEN THE VISIBLE PRESENCE OF SUCH A DEVICE DURING THE TEST PERIOD WILL RESULT IN A ZERO FOR THAT TEST. Use of these devices during a test is considered de facto evidence of cheating and could result in a charge of academic dishonesty. For a complete listing of the university policy, see: https://www.shsu.edu/dotAsset/6d35c9c9-e3e9-4695-a1a1-11951b88bc63.pdf

Disability Accomadation:

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may adversely affect your work in this class, I encourage you to register with the SHSU Counseling Center and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Counseling Center. For a complete listing of the University policy, see: http://www.shsu.edu/~vaf_www/aps/documents/811006.pdf

Class Schedule: The following schedule is tentative and subject to change if class runs short or a subject requires further discussion.

Date	Lecture	Assignment
August 23	Review syllabus and course	Long – Ch. 1
	expectations	Long & Freese – Ch. 1 & 2
	Introduction to Stata	
August 30	Linear Regression	Complete Assignment #1 (Due 9.6.17)
		Long – Ch. 2
		Long & Freese – Ch. 3 & 4
September 6	Linear Regression (Cont.)	Long – Ch. 3
		Long & Freese – Ch. 5
September 13	Binary Outcomes	Complete Assignment #2 (Due 9.20.17)
		Long – Ch. 4
		Long & Freese – Ch. 6
September 20	Binary Outcomes (Cont.)	Complete Topic Proposal and Literature
		Review Sections (Due 10.4.17)
		Long – Ch. 5
		Long & Freese – Ch. 7
September 27	No Class	No Class
		Complete Topic Proposal and Literature
		Review Sections (Due 10.4.17)
		Long – Ch. 5
		Long & Freese – Ch. 7
October 4	Ordinal Outcomes	Complete Assignment #3 (Due
		10.11.17)
October 11	Ordinal Outcomes (Cont.)	Long – Ch. 6
		Long & Freese – Ch. 8
October 18	Nominal Outcomes	Complete Methods Section (Due
		10.25.17)
		Long – Ch. 6
		Long & Freese – Ch. 8
October 25	Nominal Outcomes (Cont.)	Long – Ch. 6
		Long & Freese – Ch. 8
November 1	Count Outcomes	Complete Assignment #4 (Due 11.8.17)
		Long – Ch. 8
		Long & Freese – Ch. 9
November 8	Count Outcomes (Cont.)	Complete Results Section &
		Discussion/Conclusion Section (Due
		11.29.17)
November 15	No Class	No Class
		Continue Work on Results Section &
		Discussion/Conclusion Section (Due
		11.29.17)
November 22	No Class – Thanksgiving Holiday	No Class – Thanksgiving Holidav

November 29	Missing Data	Complete Final Project (All Sections)
		and Project Presentation (Due 12.6.17)
December 6	Project Presentations (2:30-	Submit Final Projects & Complete
	4:30pm)	Presentation (2:30-4:30pm)