

Quantitative Research Methods (SYA 6407)
and
Research Methods in Crime, Law, and Justice (CCJ 6705)
Spring, 2022
Dr. Chuck Peek

Course Schedule: This course meets on Thursdays from 3:00pm – 6:00pm (periods 8 – 10). The meeting room assigned to this class is Computer Science and Engineering (CSE) E222. Most meetings will be held synchronously via Zoom, but there will also be some opportunities for traditional face-to-face meetings (more information can be found below under “Attendance Policy” and “Schedule of Topics”).

Instructor Contact Information:

Office: 3229 Turlington Hall
Email: cpeek@ufl.edu
Office hours (virtual): Thursdays 1:00pm – 3:00pm and by appointment
<https://ufl.zoom.us/j/97836229318>

Course Description: This course serves as an overview of the principles, interpretation, and application of multivariate regression. The primary goal of this course is to provide background and experience with a commonly used analytical technique in Sociology, Criminology, and other social sciences: multiple linear regression. This type of statistical model is appropriate when dealing with a continuous dependent variable. We will discuss topics such as estimation, variable coding, managing missing data, and modeling nonlinear and nonadditive relationships. A secondary goal of this course is to introduce logistic regression, a linear model that can be used when the dependent variable is discrete (e.g. dichotomous).

Required Texts:

McClendon, McKee J. 1994. *Multiple Regression and Causal Analysis*. Prospect Heights, IL: Waveland Press.

Pampel, F.C. 2000. *Logistic Regression: A Primer*. Thousand Oaks, CA: Sage Publications.

The books by McClendon and Pampel may be purchased from the UF book store or from online retailers. We will also use a number of journal articles and other online resources to explain and illustrate topics covered in this course. These materials will be available online or via the course Canvas site unless indicated otherwise. I reserve the prerogative to add, delete, or substitute material from the reading list as necessary to clarify and illustrate concepts central to the course.

Course Technology and Software: This course requires the use of a laptop or desktop computer with a high-speed internet connection, a web camera, and a microphone. To access journal articles and other online resources, you will need access to a UF-networked computer or software that will enable you to establish a Virtual Private Network (VPN) connection. You can download Cisco Anyconnect Client (UF's preferred VPN) here:

<https://it.ufl.edu/ict/documentation/network-infrastructure/vpn/>

We will use Stata for statistical computations, data management, and model estimation. You can access Stata through [UF Apps](#). Alternatively, a Stata license can be purchased through the GradPlan arrangement that UF maintains with the Stata Corporation (www.stata.com). If you are interested in purchasing a Stata license, please contact me for more information. We will also use R occasionally, which is also available through UF Apps.

Attendance: You are expected to attend every class. If you are unable to attend, please notify me via email before class. Each student is permitted one absence. Subsequent absences will result in the loss of 25 points for each absence.

Professional Conduct: Sociology and criminology deal with a number of controversial and contested. As we engage in discussion, critically evaluate theories and empirical findings, and review each other's work, diverse views are inevitable and, in fact, valuable. Accordingly, I expect each member of this class to treat colleagues with courtesy, respect, and professionalism, even if you disagree with the views or positions they hold. Of course, harassment of any type will not be tolerated.

Assignments: Assignments for the course include a *research project* and a series of *homework assignments*. The research project will be divided into three parts: a proposal, a poster session presentation, and a research paper. Each part of the research project will, in turn, consist of a brief oral presentation and a written portion. The goal of the project is to provide an opportunity to gain experience using multivariate regression by estimating and interpreting models to explore causal relationships in your area of interest.

Proposal. In the initial phase of the research project, you will develop a research proposal based on a topic or research question in your area of interest. The proposal will identify the basic research question(s), list the specific aims, describe important theories or conceptual frameworks, discuss relevant studies, identify the data source, and describe the measurement of key concepts. The conceptual framework will be presented orally during our on-campus meeting on Thursday, February 4 and will count for 5 percent of the final grade. The full proposal is due on Monday, February 15 and will count for 15 percent of the final grade.

Research Report. During the next phase of the research project, you will present a summary of your research project in a report (think of it as the "Results" section of a journal article). A summary of your findings (along with a draft of your regression table)

will be presented orally during our on-campus meeting on Thursday, March 4 and will count for 5 percent of the final grade. The full written report is due on Monday, March 29 and will count for 15 percent of the final grade.

Research Paper. For the final phase of the research project, you will submit a paper based on your research project. In this phase, you will describe the rationale for the investigation and develop a conceptual framework; propose a set of hypotheses; describe the data, measures, and analytical approach; present the findings in textual and tabular format; and discuss the findings and their theoretical and practical implications. This paper will be similar in organization and content to a manuscript prepared for submission to a peer-reviewed journal. A brief presentation of your research (along with a set of slides) will be presented during our on-campus meeting on Thursday, April 15 and will count for 5 percent of the final grade. The full research paper is due on Wednesday, April 28 and will count for 15 percent of the final grade.

Homework Assignments. Eight homework assignments (approximately bi-weekly) are designed to provide an opportunity for practicing and applying the concepts discussed in class. Due dates are shown in the course Canvas page. Please submit all homework assignments via Canvas. Homework assignments will count for 40 percent of the final grade.

Grading Policy: Research and homework assignments will be given a numeric score ranging from 0 to 100. If an assignment does not receive a passing grade, you will have the opportunity to revise the assignment to achieve a passing score (80). Revisions must be submitted within a week after the assignment is returned. You may revise two assignments during the semester. Late assignment will receive a ten-point reduction for each day past the due date. Final grades will be assigned based on the following thresholds (a grade of “B” or higher is necessary to pass this course):

Percentage	Final Grade
92 - 100	A
90 - 91	A-
88 - 89	B+
80 - 87	B
0 - 79	Fail to pass

University Policy on Accommodations for Students with Disabilities: Students requesting accommodation for disabilities must first register with the Dean of Students Office (disability.ufl.edu). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams.

Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

Evaluation Policy: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Schedule of Topics

Date	Topic(s)	Readings
January 5	Organizational meeting	
January 12	Review of bivariate regression and regression with two independent variables	McClendon chapters 1, 2, 3 (pp. 60 – 107), 4 (pp. 133-161), and 5 (pp. 198 – 214)
January 19	The general multivariate regression model (3+ independent variables); Applications and examples	<p>McClendon chapters 3 (pp. 107 – 118), 4 (pp. 161 – 172)</p> <p>Attewell, P., S. Belkis, and J. Battle. 2003. Computers and Young Children: Social Benefit or Social Problem? <i>Social Forces</i>, 82(1): 277-296.</p> <p>Ellison, C.G. and M.A. Musick. 1993. Southern intolerance: A fundamentalist effect? <i>Social Forces</i>, 72(2): 379-98.</p>
February 2	Nonlinear relationships	McClendon chapter 6
February 9	Nonadditive relationships, part 1	McClendon chapter 7
February 16	Nonadditive relationships, part 2	<p>Ellison, C.G. (1991). Religious involvement and subjective well-being. <i>Journal of Health and Social Behavior</i>. 32(1): 80-99.</p> <p>Mossakowski, K. 2003. Coping with Perceived Discrimination: Does Ethnic Identity Protect Mental Health? <i>Journal of Health and Social Behavior</i>, 44(3): 318-331.</p>

February 23	Missing data and multiple imputation	<p>Bhaskaran, K. and L. Smeeth. (2014) What is the difference between missing completely at random and missing at random? <i>International Journal of Epidemiology</i>, 43(4): 1336-1339.</p> <p>Li, C. (2013) Little's test of missing completely at random. <i>The Stata Journal</i>, 13(4): 795-809.</p>
March 2	Regression diagnostics	McClendon chapter 4 (pp. 174 - 195)
March 9	Spring Break (no class)	
March 16	Bivariate logistic regression	<p>Pampel chapter 1</p> <p>Linneman, T.J. 2020. From Measures of Association to Multilevel Models: <i>Sociology Journals and the Quantitative Literacy Gap</i>. <i>Teaching Sociology</i>: 1-13</p>
March 23	Multivariate logistic regression	<p>Pampel chapters 2 – 3</p> <p>Longmore, M.A., W.D. Manning, P.C. Giordano, and J.L. Rudolph. (2004) Self-esteem, depressive symptoms, and adolescents' sexual onset. <i>Social Psychology Quarterly</i>, 67(3): 279-295.</p>
March 30	Multinomial logistic regression	<p>Review example at:</p> <p>https://stats.idre.ucla.edu/stata/dae/multinomiallogistic-regression/</p> <p>Manning, W.D., M.A. Longmore, and P.C. Giordano. (2000). The relationship context of contraceptive use at first intercourse. <i>Family Planning Perspectives</i>, 32(3): 104-10.</p>
April 6	Ordinal logistic regression	<p>Review example at:</p> <p>https://stats.idre.ucla.edu/stata/dae/ordered-logistic-regression/</p> <p>Arroyo, J.A., and C.W. Peek. (2015) Child welfare caseworkers' characteristics and their attitudes toward non-custodial fathers. <i>Child Abuse and Neglect</i>, 47: 140-152.</p> <p>Pampel, F.C. (2006) Socioeconomic distinction, cultural tastes, and cigarette smoking. <i>Social Science Quarterly</i>, 87(1): 19-36.</p>

		Williams, R. (2006) Generalized ordered logit/partial proportional odds models for ordinal dependent variables. The Stata Journal 6(1): 58-82.
April 13	Statistical programming using R	TBA
April 20	Combining data sets; Introduction to longitudinal data analysis	TBA

Research Papers are due on Wednesday, April 27.

Note: Course topics and due dates may shift according to the pace of the class.