Colorado State University GLOBAL CAMPUS

CRJ575: ANALYTICAL METHODS

Credit Hours: 3

Contact Hours: This is a 3-credit course, offered in accelerated format. This means that 16 weeks of material is covered in 8 weeks. The exact number of hours per week that you can expect to spend on each course will vary based upon the weekly coursework, as well as your study style and preferences. You should plan to spend 14-20 hours per week in each course reading material, interacting on the discussion boards, writing papers, completing projects, and doing research.

Faculty Information: Faculty contact information and office hours can be found on the faculty profile page.

COURSE DESCRIPTION AND OUTCOMES

Course Description:

In this course, students will gain a strong foundation for applying analytical skills and reasoning in the criminal justice environment. Students will gain a working knowledge of conducting, critically evaluating, and reporting statistical analyses for studies in criminology and the criminal justice fields. The emphasis will be on hypothesis testing with bivariate statistical methods and the linear regression model.

Course Overview:

In this course, you will review basic research concepts including variables, hypotheses, and levels of measurement—and their importance in making the correct choice of statistical analysis. The course moves from univariate analysis to bivariate analysis to linear regression. Your course activities are designed to familiarize you with research question formulation, hypothesis-testing processes, determination of statistical significance, interpretations of statistical test results, as well as the difference between correlation and causation.

You will also learn to manage data and to conduct quantitative analysis with the powerful statistical package—SPSS (Statistical Package for the Social Sciences). In addition, you will learn about domestic and international applications of various statistical analyses to inform criminal justice practices in crime prevention, policing, court administration and correctional programming.

Course Learning Outcomes:

1. Describe the relationship between level of measurement and choice of statistical methods.
2. Discuss SPSS, a statistics software package, for managing, and analyzing data.
3. Evaluate bivariate analysis and the linear regression model.
4. Evaluate the process of moving from hypothesis development to hypothesis testing in quantitative research.
5. Apply quantitative findings in meaningful, comprehensible, and professional writing.

PARTICIPATION & ATTENDANCE

Prompt and consistent attendance in your online courses is essential for your success at CSU-Global Campus. Failure to verify your attendance within the first 7 days of this course may result in your withdrawal. If for some reason you would like to drop a course, please contact your advisor.

Online classes have deadlines, assignments, and participation requirements just like on-campus classes. Budget your time carefully and keep an open line of communication with your instructor. If you are having technical problems, problems with your assignments, or other problems that are impeding your progress, let your instructor know as soon as possible.

COURSE MATERIALS

Required:

Frankfort-Nachmias, C., & Leon-Guerrero, A. (2017). *Social statistics for a diverse society* (8th ed.). Thousand Oaks, CA: Sage. ISBN13:9781506347202

- IBM® SPSS® Statistics Base GradPack 25 https://www.hearne.software/Software/SPSS-Grad-Packs-for-Students-by-IBM/Pricing?product=SPSS%20Grad%20Packs%20for%20Students%20by%20IBM&currency=USD&region=US&version=Statistics+Base+Grad+Pack&class=Student&platform=

Suggested:

Babbie, E., Wagner III, W. E., & Zaino, J. (2016). *Adventures in social research, data analysis using IBM SPSS statistics* (9th ed.). SAGE Publications, Inc. ISBN13: 9781412982443

NOTE: All non-textbook required readings and materials necessary to complete assignments, discussions, and/or supplemental or required exercises are provided within the course itself. Please read through each course module carefully.

COURSE SCHEDULE

Due Dates

The Academic Week at CSU-Global begins on Monday and ends the following Sunday.

- **Discussion Boards:** The original post must be completed by Thursday at 11:59 p.m. MT and Peer Responses posted by Sunday 11:59 p.m. MT. Late posts may not be awarded points.
- **Opening Exercises:** Take the opening exercise before reading each week's content to see which areas you will need to focus on. You may take these exercises as many times as you need. The opening exercises will not affect your final grade.

- **Mastery Exercises:** Students may access and retake mastery exercises through the last day of class until they achieve the scores they desire.
- **Critical Thinking:** Assignments are due Sunday at 11:59 p.m. MT.

WEEKLY READING AND ASSIGNMENT DETAILS

Module 1

Readings

- Chapter 1 in *Social Statistics for a Diverse Society*
- Chapter 1 in *Online Statistics Education: A Multimedia Course of Study*. Retrieved from http://onlinestatbook.com/2/introduction/variables.html
- Sheldon, G., & Prunckun, H. (2017). When the full moon rises over the Sunshine State: A quantitative evaluation of Queensland Police calls. *International Journal of Criminal Justice Sciences, 12*(1), 129-138. Retrieved from http://search.ebscohost.com.csuglobal.idm.oclc.org/login.aspx?direct=true&db=i3h&AN=122653815&site=ehost-live
- Working in SPSS. (2016). Entering and organizing data [Video file]. *SAGE*. Retrieved from http://methods.sagepub.com.csuglobal.idm.oclc.org/video/working-in-spss-tuto?fromsearch=true

Discussion (25 points)

Critical Thinking: Variables and Hypotheses (120 points)

The American Community Survey (ACS) is conducted by the U.S. Census Bureau.

Insert your county and state of residence into the search field located on the upper right-hand side of the ACS home page. You will not only find population statistics, but a wealth of other aggregated demographic information about people residing in your county of residence (e.g., household income, schools, poverty, veterans residing in the county, etc.). Pay attention to the type of information collected and whether the variables are nominal, ordinal, or interval/ratio.

Using the handout,answer the 12 questions (which pertain to the ACS 2007 census data on the entire U.S. population). Also compare the information discussed in the handout on the general U.S. population with two of the pieces of information you discovered about your county of residence from the ACS website. Your answers should conform to CSU-Global Guide to Writing and APA Requirements.

Portfolio Milestone (0 points)

A final Portfolio Project is required for this course and is due in Week 8. This week, review the two options for the Portfolio Project in the Week 8 folder, and think about which option you will want to complete (you will only choose and complete one option. Do not do both options).

Also, review the Portfolio Project Grading Rubric in the Week 8 folder so that you understand exactly how you will be scored. Note that there is a Preliminary Deliverable for both options of the Portfolio Project due in Week 3.

Module 2

Readings

- Chapters 2-6 in *Social Statistics for a Diverse Society*
- Chapter 1 in *Logic of Hypothesis Testing in Online Statistics Education: A Multimedia Course of Study*. Retrieved from http://onlinestatbook.com/2/introduction/levels_of_measurement.html
- Stamatel, J. P. (2014). Revisiting nations not obsessed with crime. *Crime, Law and Social Change, 62*(2), 113-129. Retrieved from https://csuglobal.idm.oclc.org/login?url=https://search-proquest-com.csuglobal.idm.oclc.org/docview/1554423095?accountid=38569

Discussion (25 points

Critical Thinking Assignment (90 points)

Choose one of the following two assignments to complete this week. Do not do both assignments. Identify your assignment choice in the title of your submission.

Option #1:

Imagine that you are applying for a promotion or for a position in a criminal justice agency of your choice (one at which you are presently working or one at which you desire to work). Conduct an Internet search for some statistics that pertain to the department (e.g., number of offices, employees, cases handled per year, budget, successes/challenges, positive/negative media coverage).

Complete an 8-10 slide PowerPoint presentation for the hiring/promoting authority. Using the statistics, you have discovered as a foundation, and analyzing whether there are any gaps or shortcomings in the data you've discovered, recommend to the hiring/promoting authority a research project that could be done and/or statistics that could/should be collected. Also emphasize how what you have learned in this course makes you the best candidate for the position. Remember to cite your sources and include a reference list

Some examples of positions are: chief crime prevention officer, police chief, prosecutor, court administrator, presiding judge, public defender, parole/probation director, lead juvenile probation officer, jail/prison administrator, and rehab/social service program director.

Option #2:

Many federal agencies have job openings for special agents, crime/financial/intelligence analysts, and a host of other positions that require or prefer individuals with some basic knowledge of statistics.

Imagine that you are applying for a position with an agency of your choice. Conduct an Internet search on that agency. Find some statistics on the agency (e.g., number of employees, offices, cases per year, budget) and incorporate these statistics into an outline. Remember to include sources in proper APA format on your outline.

Record a 3-5-minute oral presentation for the hiring/promoting authority (you can use the recording feature in PowerPoint or another voice recording application to produce an mp3 file that can be uploaded with your outline). Using the statistics that you have discovered as a foundation,

present the statistics and discuss how you might be a good fit for a position in the agency (because of your knowledge of research/statistics). Emphasize some of the things you have learned thus far in this course within your presentation.

Submit both the outline and recording of your presentation.

Examples of agencies include:

U.S. Department of Homeland Security: https://www.dhs.gov/
National Security Agency: https://www.nsa.gov/
U.S. Department of Justice: https://www.justice.gov/
FBI: https://www.fbi.gov/

Module 3

Readings

- Chapters 6 & 7 in *Social Statistics for a Diverse Society*
- Chapter 9 in *Logic of Hypothesis Testing in Online Statistics Education: A Multimedia Course of Study*. Retrieved from http://onlinestatbook.com/2/sampling_distributions/sampling_distributions.html

Discussion (25 points)

Portfolio Milestone (25 points)

Option #1: Submit Research Question and Hypothesis and Begin Literature Review

Based on your understanding of the instructions for the Portfolio Project Option #1, submit your research question and hypothesis (one paragraph) for feedback.

Identify one recent research article on this topic (not older than five years). Review the research question/hypothesis and the kinds of data used to answer the research question in this study. Summarize the findings, conclusions, and recommendations for future research.

Format your work according to the CSU-Global Guide to Writing and APA Requirements.

Option #2: Submit Research Question and Hypothesis and Begin Literature Review

Based on your understanding of the instructions for the Portfolio Project Option #2, submit your research question and hypothesis (one paragraph) for feedback.

Identify one recent research article on this topic (not older than five years). Review the research question/hypothesis and the kinds of data used to answer the research question in this study. Summarize the findings, conclusions, and recommendations for future research.

Format your work according to the CSU-Global Guide to Writing and APA Requirements.

Module 4

Readings

- Chapter 8 in *Social Statistics for a Diverse Society*
- Chapter 11 in *Online Statistics Education: A Multimedia Course of Study*. Retrieved from http://onlinestatbook.com/2/logic_of_hypothesis_testing/logic_hypothesis.html
- Eisenberg, T. & Heise, M. (2015). Plaintiphobia in state courts redux? An empirical study of state court trials on appeal. *Journal of Empirical Legal Studies*, *12*(1), 100-127. Retrieved from http://search.ebscohost.com.csuglobal.idm.oclc.org/login.aspx?direct=true&db=i3h&AN=101023589&site=ehost-live

Discussion (25 points)

Critical Thinking (120 points)

Choose one of the following two assignments to complete this week. Do not do both assignments. Identify your assignment choice in the title of your submission.

Option #1: Inferential Test

Criminologists have long studied the relationships between employment opportunity, upward mobility in society and criminality. For this assignment, we will evaluate a study of mobility that was conducted in Netherlands.

1. Read the following article:

Thijssen, L., & Wolbers, M. H. J. (2016). Determinants of intergenerational downward mobility in the Netherlands. *Social Indicators Research, 128*(3), 995-1010. Retrieved from https://doi.org/10.1007/s11205-015-1066-7

2. In a well-organized essay, answer the following questions.

- Review the assumptions made for each inferential test (based on the information in this chapter).
- Review the null hypothesis for each inferential test (based on the information in this chapter).
- How are final statistics (*t*-obtained, chi-square obtained, or *F* obtained) reported in the article?
- Based on the table or summary of final statistics, what conclusions do the authors make? Do they find support for their original hypothesis? Explain your answer.

Option #2: Sampling Technique

In 2016, Australian researchers conducted the following study on the fear of crime:

Chataway, M. L., & Hart, T. C. (2016). (Re)assessing contemporary "fear of crime" measures within an Australian context. *Journal of Environmental Psychology*. *47*, 195-203. Retrieved from http://www.sciencedirect.com.csuglobal.idm.oclc.org/science/article/pii/S0272494416300603

Read this study publication and, in a well-organized essay, answer the following questions:

- Discuss the sampling technique used by the original researchers and why they chose that technique (based on the information in this chapter).
- Summarize the findings from the statistical tables presented in the textbook (based on the information in this chapter).
- What final statistics were utilized to determine any correlations?
- What conclusions do the authors make? Do they find support for their original hypothesis? Explain your answer.

Module 5

Readings

- Chapters 9 & 10 in *Social Statistics for a Diverse Society*
- Chapter 17 in *Online Statistics Education: A Multimedia Course of Study*. Retrieved from http://onlinestatbook.com/2/chi_square/one-way.html

Discussion (25 points)

Portfolio Milestone (25 points)

Option #1: Additional Literature Review

Based on your understanding of the instructions for the Portfolio Project Option #1, conduct more library research and identify two additional recent research articles on this topic (not older than five years). Review the research question/hypothesis and the kinds of data used to answer the research question in this study. Summarize the findings, conclusions, and recommendations for future research and/or any recommendations for practice application.

Format your work according to the CSU-Global Guide to Writing and APA Requirements.

Option #2: Additional Literature Review

Based on your understanding of the instructions for the Portfolio Project Option #2, conduct more library research and identify two additional recent research articles on this topic (not older than five years). Review the research question/hypothesis and the kinds of data used to answer the research question in this study. Summarize the findings, conclusions, and recommendations for future research and/or any recommendations for practice application.

Format your work according to the CSU-Global Guide to Writing and APA Requirements.

Module 6

Readings

- Chapter 11 in *Social Statistics for a Diverse Society*
- Wells, R. S., Kolek, E. A., Williams, E. A., & Saunders, D. B. (2015). "How We Know What We Know": A Systematic Comparison of Research Methods Employed in Higher Education Journals, 1996-2000

v. 2006-2010. *The Journal of Higher Education*, 86(2), 171-195. Retrieved from https://csuglobal-primo.hosted.exlibrisgroup.com/primo-explore/fulldisplay?docid=TN_tayfranc10.1080/00221546.2015.11777361&context=PC&vid=01COLSU_GLOBAL&search_scope=Everything&tab=default_tab&lang=en_US

Discussion (25 points)

Critical Thinking (120 points)

Choose one of the following two assignments to complete this week. Do not do both assignments. Identify your assignment choice in the title of your submission.

Option #1: ANOVA

Based on your experience with Week 6, write a well-developed report of the one-way ANOVA analysis of the relationship between *Race* and *GPA* in the data file located in Course Information and titled **mtf11sdss.sav**. Your report should include the following key information:

● A brief introduction to your study;
● The research hypothesis and null hypothesis as well as variables and their measurement;
● An explanation of the kind of statistical analysis you will perform to test the hypothesis and why you believe the one-way ANOVA method is appropriate;
● A report of your findings, including: group means, statistical significance for overall difference among racial groups, and whether the findings lend to rejection of the null hypothesis; and
● A discussion about significance. If it is significant, report the findings that Post Hoc tests indicate. That is, which specific groups differ?
● Include the complete SPSS output for this analysis.

Format your assignment according to the CSU-Global Guide to Writing and APA Requirements.

Option #2: ANOVA

Following the procedures that you have learned during Week 6, analyze the relationship between the variables **femaleofficeord** and **laborratefemale** in the data file **global13sdss.sav** located in Course Information.

Your report should include the following key information.

● A brief introduction to your study;
● Research hypothesis and null hypothesis – variables and their measurement;
● What kind of statistical analysis you will perform to test the hypothesis and why this method (one-way ANOVA) is appropriate;
● A report of your findings, including: group means, statistical significance for overall difference among racial groups, and whether the findings lend to rejection of the null hypothesis; and
● If it is significant, report the findings that Post Hoc tests indicate. That is, which specific groups differ?
● Include the complete SPSS output for this analysis.

Format your assignment according to the CSU-Global Guide to Writing and APA Requirements.

Module 7

Discussion (25 points)

Critical Thinking: Title (0 points)

N/A

Portfolio Milestone (0 points)

Next week, Week 8, your final Portfolio Project is due. Review the Portfolio Project Grading Rubric in the Week 8 folder to understand how you will be scored.

Module 8

Discussion (25 points)

Portfolio Project (300 points)

Option #1: Secondary Data Analysis—Utilizing the Police Contact Survey

Researchers sometimes address a research question by analyzing secondary instead of primary data; that is, they use data collected by someone else for another purpose. This method is called *secondary data analysis.* You will complete this Portfolio Project with this approach, using information you select from the data file titled 32022 PoliceContactSurvey.sav located in Course Information.

- Examine the meanings and values of all variables in 32022 Codebook located in in Course Information.
- Select at least two variables, ask a question about the relationship between them, and establish a testable hypothesis by answering your question.
- NOTE: In Week 3, you will submit your research question and hypothesis in a one-paragraph description for your instructor's feedback. See the Week 3 folder for more information about this preliminary deliverable.

Now you're ready to develop this project, using the following structure.

1. **Problem Statement:** Identify a research problem, which prompts you to ask the question about the relationship among the variables you intend to use. Your answers to the question will increase the understanding of the problem or the solution to the problem (0.5 page in length).
2. **Literature Review**: Identify at least three recent research articles on this topic (no older than five years); review their research questions/hypothesis, review the kinds of data used to answer the research questions in these studies, and summarize their findings, conclusions, and recommendations for future research. After wrapping up your review, state the purpose of your research by raising your own research question and answer it in the form of a hypothesis that you will test (1-2 pages).
3. **Method:**
   a. Identify the variables in your hypothesis and how you will operationalize them (e.g., what survey question(s) you will use to measure each of your variables).
   b. Identify your data method (secondary data method). Use the 32022 codebook to describe the dataset from which you draw variables, including who collected/sponsored the data collection, the date of the data collection, the method used for data collection, and the units of analysis (i.e., from whom or what were the data collected?).
   c. Identify the measurement level of the variables you select (categorical or quantitative measurement).
   d. Identify the statistical method you should employ for hypothesis testing based on the type(s) of variables you will use in this study. This section should be 1-1.5 pages in length.
4. **Findings**: Present your statistical findings and conclusions in relation to your research question/hypothesis; include the relevant statistics table(s) that details your statistical findings. This section should be 0.5-1 page.
5. **Discussion and Conclusion:** Briefly summarize the findings without tables and statistics; discuss the implications and limitations of your study, including data and variables used. Recommend how studies of this topic might improve in the future. This section should be 0.5-1 page in length.
6. **References:** You must include at least four credible research resources to support your assignment and include these resources in a separate references page.
7. **Format:** Format your entire paper according to the CSU-Global Guide to Writing and APA Requirements.

Option #2: Secondary Data Analysis—Utilizing the General Social Survey 2014

Researchers sometimes address a research question by analyzing secondary rather than primary data; that is, they use data collected by someone else for another purpose. The method is called *secondary data analysis*. In this class, you are expected to complete a portfolio project using this approach and based on information you select from the data file **GSS14SSDS.sav (either GSS14SSDS-A or GSS14SSDS-B)** located in Course Information.

Examine the meanings and values of all variables in **GSS14SSDS Codebooks (A or B)**. Select two variables, ask a question about the relationship between them, and establish a testable hypothesis by answering your question.

Note: In *Week 3,* you will submit your research question and hypothesis in a one-paragraph paper for the instructor's feedback. See the Week 3 folder for more information.

Now you're ready to develop this project using the following structure.

1. **Problem Statement**: Identify a research problem, which prompts you to ask the question about the relationship between the variables you intend to use. Your answers to the question will increase the understanding of the problem or the solution to the problem. (0.5 page)
2. **Literature Review**: Identify at least three research articles on this topic (less than five years old), review their research questions/hypothesis, review the kinds of data used to answer the research questions in these studies, and summarize their findings, conclusions, and recommendations for future research. After wrapping up your review, state the purpose of your research by raising your own research question and answer it in the form of a hypothesis you will test. (1-2 pages)
3. **Method**:
   a. Identify the variables in your hypothesis and how you will operationalize them (e.g., What survey question(s) you will use to measure each of your variables).
   b. Identify your data method (secondary data). Use the GSS codebook to describe dataset from which you draw variables, including who collected/sponsored the data collection and the date of the data collection, the method used for data collection, and the units of analysis (i.e., from whom or what were the data collected?).
   c. Describe the measurement level of the variables you select (categorical or quantitative measurement).
   d. Identify the statistical method your study should employ for hypothesis testing based on the type(s) variables you will use in this study. (1-1.5 pages)
4. **Findings**: Present your statistical findings and conclusions in relation to your research question/hypothesis; include the relevant statistics table(s) that details your statistical findings. (0.5-1 page)
5. **Discussion and Conclusion**: Briefly summarize the findings without tables and statistics (text only); discuss the implications and limitations of your study, including data, and variables used. Recommend how studies of this topic might improve in the future. (0.5-1 page)
6. **References**: You must include at least four credible research resources to support your assignment and include these resources in a separate references page.
7. **Format:** Format your entire paper according to the CSU-Global Guide to Writing and APA Requirements.

Grading Scale	
A	95.0 – 100
A-	90.0 – 94.9
B+	86.7 – 89.9
B	83.3 – 86.6
B-	80.0 – 83.2
C+	75.0 – 79.9
C	70.0 – 74.9
D	60.0 – 69.9
F	59.9 or below

Course Grading

20% Discussion Participation
45% Critical Thinking Assignments
35% Final Portfolio Project

IN-CLASSROOM POLICIES

For information on late work and incomplete grade policies, please refer to our **In-Classroom Student Policies and Guidelines** or the Academic Catalog for comprehensive documentation of CSU-Global institutional policies.

Academic Integrity
Students must assume responsibility for maintaining honesty in all work submitted for credit and in any other work designated by the instructor of the course. Academic dishonesty includes cheating, fabrication, facilitating academic dishonesty, plagiarism, reusing /re-purposing your own work (see *CSU-Global Guide to Writing and APA Requirements* for percentage of repurposed work that can be used in an assignment), unauthorized possession of academic materials, and unauthorized collaboration. The CSU-Global Library provides information on how students can avoid plagiarism by understanding what it is and how to use the Library and Internet resources.

Citing Sources with APA Style
All students are expected to follow the *CSU-Global Guide to Writing and APA Requirements* when citing in APA (based on the APA Style Manual, 6th edition) for all assignments. For details on CSU-Global APA style, please review the APA resources within the CSU-Global Library under the "APA Guide & Resources" link. A link to this document should also be provided within most assignment descriptions in your course.

Disability Services Statement
CSU–Global is committed to providing reasonable accommodations for all persons with disabilities. Any student with a documented disability requesting academic accommodations should contact the Disability Resource Coordinator at 720-279-0650 and/or email ada@CSUGlobal.edu for additional information to coordinate reasonable accommodations for students with documented disabilities.

Netiquette
Respect the diversity of opinions among the instructor and classmates and engage with them in a courteous, respectful, and professional manner. All posts and classroom communication must be conducted in accordance with the student code of conduct. Think before you push the Send button. Did you say just what you meant? How will the person on the other end read the words?

Maintain an environment free of harassment, stalking, threats, abuse, insults or humiliation toward the instructor and classmates. This includes, but is not limited to, demeaning written or oral comments of an ethnic, religious, age, disability, sexist (or sexual orientation), or racist nature; and the unwanted sexual advances or intimidations by email, or on discussion boards and other postings within or connected to the online classroom.

If you have concerns about something that has been said, please let your instructor know.