

**STATISTICS IN INTELLIGENCE AND CRIMINAL JUSTICE**  
**INSS 5361, CRN #23073**  
**TR 4 :30 – 5 :50**  
**LIBERAL ARTS BUILDING, ROOM 403**  
**THE UNIVERSITY OF TEXAS AT EL PASO**  
**SPRING, 2023**

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II. **TEXTBOOK**

Weiss, N.A. (2011). *Introductory Statistics (10<sup>th</sup> edition)*. Pearson. ISBN: 78-0-321-98917-8

Additional readings must be downloaded by students from the University library or may be available on Blackboard.

It is **extremely** important that assigned chapters be read prior to each class period. The lectures are meant to supplement and clarify the readings, not as a substitute for the readings. You are very unlikely to do well in this course if you do not read the assigned material.

III. **COURSE OBJECTIVES**

Upon satisfactory completion of this course, the student will be able to:

- A. Understand the statistical concepts and methods necessary for quantitative analysis of intelligence and criminal justice problems.
- B. Analyze data by graphs, charts, and inferential statistical tests.
- C. Acquire computing skills with SPSS.
- D. Apply quantitative reasoning to decision-making regarding intelligence, national security, and criminal justice.

IV. **COURSE CATALOG DESCRIPTION**

This course provides the basic elements of statistical analytic techniques for intelligence and criminal justice research, allowing students to formulate and test hypotheses related to quantitative research in these fields. Students will learn to conduct analyses using statistical software, such as Excel and SPSS.

## V. COURSE REQUIREMENTS

### A. Quizzes (15%)

There will be weekly quizzes. The purpose of the quizzes is to help you to test your understanding of the material so that you can be prepared for the exams. Each quiz will consist of 15 multiple choice, true/false, or fill-in-the-blank questions. The quiz will become available at 12:00 am and will remain available until 11:59 pm the day that it is due. Once you begin taking the quiz you will have one hour to complete it. The two quiz grades with the lowest scores will be dropped. See the class calendar for the due dates of the quizzes.

### B. Critique of results section (15%)

You will be presented with a paper that describes quantitative research conducted in the field of intelligence or national security. You will be asked to critique the section of the paper that describes the results of the statistical analyses conducted as part of the research. As part of this critique, you will be required to describe the analyses conducted, the clarity of the author's description of the analyses, and the appropriateness of the analyses in addressing the hypotheses of the study. This paper will be due on **April 18<sup>th</sup>**. The paper must be turned in via Blackboard. Click on "Assignments", then click on "Critique" to submit the paper. Failure to turn in the critique on time will result in a 2% deduction from your grade for every day that it is late.

### C. Exams (35%)

There will be two exams. The exams will include questions requiring you to interpret data from graphs or charts, interpret descriptive statistics and the results of statistical tests, and demonstrate your conceptual understanding of statistical concepts. You will NOT be required to memorize formulas. The second exam will not be cumulative. If you must miss the exams for any reason, you must see me prior to the exams to discuss alternate arrangements.

Information covered on the exam will be taken from the book and class discussions. All of the information in the book will not be covered in the class. You are responsible for reading and knowing the assigned book material. Additionally, all of the information covered in class will not be in the book. You are responsible for coming to class regularly. If you miss a class, you are responsible for obtaining notes from a classmate. The scores on the exams will be adjusted so that the average score is 80% of the maximum possible points.

Exam 1 will be made available on Blackboard at **4:30 pm on March 9<sup>th</sup>**. Once you begin taking the exam, you will have 90 minutes to finish it. Exam 2 will be made available on Blackboard at **7:00 pm on May 9<sup>th</sup>** and you will have three hours to finish it. The exam will force you to submit your answers once your time has finished.

D. Data analysis paper (25%)

You will be required to analyze and interpret a set of data and write a 5-7 page paper about the results. As part of this assignment, you will be required to *generate* two hypotheses and analyze the data in a manner that allows for those hypotheses to be tested. This project will be completed in small groups. This paper will be due the date of the final exam. The paper must be turned in via Blackboard. Click on "Assignments", then click on "Data Analysis Paper" to submit the paper. The paper will be due **May 9<sup>th</sup>**. Failure to turn in the paper on time will result in a 2% deduction from your grade for every day that it is late.

E. Class participation (10%)

You will be graded according to your level of participation in classroom activities (e.g., level and quality of discussion and responses to questions posed to the class, cooperation with classmates in small-group activities) and attendance. You will be allowed to have three class absences. Any absences beyond that will affect your class participation grade. If you have an extraordinary situation that requires extensive class absences, please schedule a time to discuss this with me.

F. Homework assignments (Optional)

Weekly homework assignments and answer keys will be posted on Blackboard. These are optional. The homework assignments are intended to consolidate your knowledge of the content covered during the course. It is strongly encouraged that you complete some or all of the assignment each week. In past courses it has been found that students who regularly completed homework assignments performed better on the exams.

G. Research participation (Extra credit)

You may earn up to three percentage points, to be added to your final grade in the course, by participating in research studies. To earn the credit, you must sign up for one or more research studies via SONA (<https://utep.sona-systems.com>). Please refer to the handout "Sona System Policies-Participant Guide" for instructions on how to obtain a participant account in SONA and how to use the SONA system. You will earn one percentage point for each hour of research participation. I strongly encourage you to complete these credits early in the semester if you choose to seek credit. If you would like an alternative assignment to earn extra credit, please meet with me to discuss this.

H. Software problems (Extra credit)

You may earn up to eight percentage points, to be added to your exam grades, by completing the extra credit problems posted within each module on Blackboard. You must earn 100% on the extra credit problems to get credit. You may make corrections to any incorrect parts of the extra credit. When you make corrections, you only need to submit the part(s) that was

incorrect. Extra credit for Chapters 8 – 12 will be applied to the Exam 1 grade and extra credit for Chapters 13, 15 and Modules A and B will be applied to the Exam 2 grade. Extra credit not submitted by the due date will not be graded.

#### **VI. GRADING SCALE AT THE END**

A = 90 – 100%

B = 80 – 89%

C = 70 – 79%

D = 60 – 69%

F = below 60%

NOTE: Final grades are a weighted average of assignment and exam grades. Final grades are not curved.

#### **VII. TECHNOLOGICAL PROBLEMS/QUESTIONS**

For all technological, hardware, software problems, lost files, and/or questions with Blackboard, as well as difficulties you are having during an exam, contact Technology Support Help Desk 24 hours a day, 7 days a week. Tech support is set up to specifically address technical questions and problems about Blackboard.

Professors are not technical support staff.

Phone: E-mail: Website: In Person:

915.747.4357 or toll free: 1-877-382-0491

<https://www.utep.edu/technologysupport/>

UTEP Library, Room 300

Please regularly refer to Blackboard for links, documents, announcements, and calendar changes. You are responsible for being up-to-date on all class information that is posted on Blackboard.

#### **CHECK YOUR TECHNOLOGY**

- A. Computer with a reliable internet connection. Mobile devices are not reliable to access exams and use the discussion board.
- B. Blackboard (BB) Learning Management System. The entire course is run through UTEP's BB system, so students must activate and use their BB accounts regularly. Always log in using your UTEP name and password, and never as a "guest" (the guest option will kick you out after 15-20 minutes, which is problematic when taking a test because you will not be able to finish your test). All students are responsible for regularly logging in and checking for posted announcements, submitting assignments, participating in discussion boards, and taking tests through BB. Contact UTEP tech support for any questions or concerns regarding navigating in BB or learning how to do something in BB.

- C. Browser Information (See the left side of the menu on the main BB page for hardware, software, and browser checks) Firefox seems to consistently work the best, but other supported Browsers include Chrome, Safari, and Internet Explorer. Be sure to “Allow pop-ups” for Blackboard Clear your browser cache
- D. Verify that you have the most updated version of “Java” <http://java.com>.
- E. All word documents should be saved with a “docx” extension identifying it as a Microsoft Word file or compatible with MS Word, Windows Media Player, Quick Time, Adobe Reader, Adobe Flash Player

### VIII. ACADEMIC DISHONESTY

If you are suspected of cheating on the exams or quizzes or collaborating with other students on the critique, the instructor will follow the University’s policy regarding student dishonesty, which may result in a grade of zero and referral of the student to the Office of Student Conduct. If you are suspected of plagiarism, the instructor will follow the University’s policy regarding student dishonesty, which may result in a grade of zero and referral of the student to the Office of Student Conduct.

Academic dishonesty or cheating is simply unethical and not acceptable under any circumstances. Plagiarism is a form of cheating that involves “stealing” the words and thoughts of others. It is a very serious academic violation and cannot be tolerated. The most common form of plagiarism is using information or original wording in a paper or other assignment without giving credit to the source of that information or wording. **Plagiarism also includes the direct copying of a source verbatim (word for word) and incorporating that copied material into the student’s paper or assignment without first paraphrasing with proper referencing or placing the copied text into a direct quotation, again with appropriate footnotes or citations.** Students must use their own words when not using direct quotes. Direct quotes should be used sparingly and only when appropriate to provide examples, evidence, or illustrate specific points. **You cannot simply “cut and paste” wording or text from source material to artificially “construct” their papers, essays, and other assignments. This practice is also considered plagiarism, even if references are done properly.**

Likewise, you must not submit work under their name that you did not do yourselves. You also may not submit work for this course that you produced for another course. If you are found to be cheating in any capacity including plagiarism and collusion, you will be subject to disciplinary action, per UTEP catalog policy. Cases of academic dishonesty will be sent to the Office of Student Conduct and Conflict Resolution for adjudication and possible sanctions. Possible penalties for academic dishonesty include a zero for the assignment, a failing grade for the course, suspension, and even expulsion from the university. You are responsible for understanding your specific obligations to maintain academic integrity at all times. Please refer to the following link for further information on UTEP’s policies on plagiarism and academic dishonesty: <http://sa.utep.edu/osccr/academic-integrity/>.

### IX. STUDENTS WITH SPECIAL NEEDS

If you have a disability that requires an accommodation, you may contact Center for Accommodations and Support Services at 747-5148.

#### **X. UTEP COURSE DROP POLICY**

If unforeseen circumstances happen where a drop is necessary, you are responsible for initiating any course drop. It is your responsibility to determine how dropping courses may affect financial aid. **You are limited to dropping no more than 6 courses over their entire academic career of all courses taken at any public college or University in Texas.**

- A. If a course is dropped before the “official census date,” the course will not appear on the transcript, and doesn’t count toward the 6-course drop limit.
- B. Dropping a course after the official census date, but before the “course drop date” will generate a “W” in the course—although the drop shows on your transcript, a “W” does not lower your GPA. However, a “W” counts against your 6-drop limit.
- C. If the course is dropped after the “course drop date” or if you just stop participating, taking tests, etc., UTEP requires the instructor to issue an “F” in the course that permanently remains on the transcript.
- D. UTEP also allows instructors to administratively drop any student because of too many times the student fails to submit assignments, discussion questions, or because of disciplinary reasons. In this case, you will be notified of the course drop through your UTEP student email account. A “W” or an “F” will be issued. A “W” for these reasons counts against the 6-drop limit.

#### **XI. STUDENT CONDUCT**

You must be respectful of other students and of all opinions. All communication should be free of vulgar, offensive, and/or discriminatory language. While it is appropriate to share your opinion on particular issues, your opinion should be presented as such (not as a fact) and should be supported by valid, factual arguments. You may also provide constructive criticism of other opinions. Constructive criticism is provided respectfully and professionally, criticizing the merit of the arguments or the veracity of the facts not the person.

Cell phones should not be used in class without the permission of the instructor. You should attend to the instructor during class lectures. If you are disruptive to the class, you will be asked to leave. You must obtain the instructor’s permission to record lectures. Laptops are allowed during class for taking notes or to aid in classroom exercises. If you use a laptop for other purposes, you will be asked to put it away.

According to University policy, “The Texas Department of Public Safety defines a concealed handgun as a handgun, the presence of which is not openly discernible to the ordinary

observation of a reasonable person. This same definition is utilized at UTEP. At all times, the handgun must be on or about the license holder's body or secured and concealed safely." This means that handguns may not be openly displayed on campus.

You should ensure that all emailed communication is written using appropriate etiquette. Please use a salutation (for example, "Dear Dr. Duke", or "Hello Dr. Duke"), a clear and thorough communication of your question or concern, and a closing (for example, "Thanks, Bill Martinez" or "Sincerely, Angel Gomez"). Make sure to proofread your emails for grammar, spelling, and clear meaning. Also, please be sure to indicate the course title or number in your email.

## **XII. COVID-19 SAFETY POLICY**

Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, or test positive for, or know that you have COVID-19, please let the instructor know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive or know that you have COVID-19, you are encouraged to report your results to [covidaction@utep.edu](mailto:covidaction@utep.edu), so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID-19 testing.

The best way that Miners can take care of Miners is to please get the vaccine. If you still need the vaccine, it is free and widely available in the El Paso area and will also be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit [epstrong.org](http://epstrong.org).

The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. For employees and students who have not been vaccinated, face coverings are highly recommended, especially when indoors, to reduce the spread of COVID-19. Your instructor may wear a mask when interacting with students directly but will remove the mask when speaking to the large group; your instructor has been fully vaccinated.

Please contact the instructor if you have any questions concerns related to your safety on campus.

## **XIII. ABSENCE POLICY**

Please do not come to class if you are displaying symptoms of COVID-19, have tested positive for COVID-19, or have been exposed to someone who has tested positive for COVID-19. If any of these events occur, you must inform me as soon as possible. In the absence of these events, you are expected to attend all but three class periods.

Class materials will be available on Blackboard. If you must miss class, you are responsible for reviewing this information and for obtaining any further information about the missed class from your classmates.

#### **XIV. GROUPWORK POLICY**

Your Data Analysis Paper assignments will require groupwork. Effective groupwork requires cohesion and group norms about work ethics. In other words, the members of your group should work well as a unit and equally share in the effort related to group tasks. Unfortunately, sometimes there is a tendency for at least one group member to be a *social loafer*, to allow others to do the work and then take an equal part of the credit. This interferes with group cohesion and violates group norms. Therefore, all members of the group will sign a group contract early in the semester that defines roles, agreed channels for communication, respectful behavior, etc. The contract will also provide a procedure for action if one or more group members violates the terms of the contract. After both group assignments, group members will assess and provide feedback regarding each other's performance during the assignment. This assessment will form part of Data Analysis Paper grade.

#### **XV. UTEP EDGE STATEMENT**

The UTEP Edge is our philosophy that acknowledges the many assets our students bring to the University. We provide a variety of high-impact experiences both in and out of the classroom through work of our faculty, staff, alumni, and community partners that build on these assets and talents. Many of the assignments and discussions in this class will further develop the talents you bring to this class such as developing your communication skills, teamwork, critical thinking, research, and problem solving. These skills will be developed through consumption of class content, completing critiques of research studies, and milestones towards your research proposal.

Mastery of these skills will be demonstrated through exams, homework assignments, the written critique, classroom exercises, and the written report of your data analysis paper. Some of these assignments, such as understanding and critiquing research studies, are related to more general intelligence analysis skills that you will gain in INSS 5305 Introduction to Intelligence Analysis. Finally, statistical analysis may be necessary to complete INSS 5398/5399 Thesis or CRIJ 5397/5399.

#### **XVI. CLASS CALENDAR\***

**Module 1: 1/17-1/24**  
***Introduction and Review***

**Module 2: 1/27-1/31**  
***Confidence Intervals for One Population Mean***



Weiss, Chapter 8

Optional: Treyger, E., Robbins, M., Chang, J. C., & Tanverakul, S. (2020). *Modeling the impact of border-enforcement measures*. Homeland Security Operational Analysis Center.

**Due 2/5: Quiz 1**  
**Extra Credit**

**Module 3: 2/2-2/9**  
***Hypothesis Tests for One Population Mean***

Weiss, Chapter 9

Optional: Omorogiuwa, T. B. E., & Imafidon, K. A. (2017). Socio-economic security and democratic participation in Nigeria. *International Journal of Education, Learning, and Development*, 5, 58-65.

**Due 2/12: Quiz 2**  
**Extra Credit**

**Due 2/9: Group Membership Post**

**Module 4: 2/14-2/21**  
***Inferences for Two Population Means***

Weiss, Chapter 10

Optional: Mandel, D. R. (2013). Counterterrorism and Muslim public opinion. (H. Cabayan, V. Sitterle, & Yandura M., Eds.) *Looking Back, Looking Forward: Perspectives on Terrorism and Responses to It: Strategic Multi-layer Assessment Occasional White Paper*. Department of Defense.

**Due 2/26: Quiz 3**  
**Extra Credit**

**Due 2/16: Group Contract**

**Module 5: 2/23-2/27**  
***Inferences for Population Proportions***

Weiss, Chapter 12

Optional: Champion, D. J. (1987). Elderly felons and sentencing severity: Interregional variations in leniency and sentencing trends. *Criminal Justice Review*, 12, 7-14.

**Due 3/4: Quiz 4**  
**Extra Credit**

**Review: 3/6**

**Exam 1: 3/9**

**Spring Break: 3/13-3/17**

**Module 6: 3/21-3/28**  
***Chi-Square Procedures***

Weiss, Chapter 13

Optional: Goli, M., & Rezaei, S. (2011). Radical Islamism and migrant integration in Denmark: An empirical inquiry. *Journal of Strategic Security*, 4, 81-114.

**Due 4/2: Quiz 5**  
**Extra Credit**

**Due 3/21: Hypotheses for Data Analysis Paper**

**Due 4/18: Critique**

**Module 7: 3/30-4/4**  
***Descriptive Methods in Regression and Correlation***

Weiss, Chapter 14

**Due 4/4: Description of dataset for Data Analysis Paper**

**Due 4/9: Quiz 6**  
**Extra Credit**

**Course drop deadline: 3/30**

**Module 8: 4/6-4/13**  
***Inferential Methods in Regression and Correlation***

Weiss, Chapter 15

Optional: Rigterink, A. S. (2015). Does security imply safety? On the (lack of) correlation between different aspects of security. *Stability: International Journal of Security and Development*, 4, 1-21.

**Due 4/11: Group Progress Report**

**Due 4/16: Quiz 7**  
**Extra Credit**

**Module 9: 4/18-4/25**

***Multiple Regression Analysis***

Weiss, Module A

Optional: Sun, I. Y. (2007). Policing domestic violence: Does officer gender matter? *Journal of Criminal Justice*, 35, 581-595.

**Due 4/20: Description of Statistical Tests for Data Analysis Paper**

**Due 4/30: Quiz 8**

**Extra Credit**

**Module 10: 4/27-5/4**

***Model Building in Regression***

Weiss, Module B

Optional: Ahram, A. (2011). Origins and persistence of state-sponsored militias: Path-dependent processes in third world military development. *Journal of Strategic Studies*, 34, 531-555.

Friedman, J. A., Lerner, J. S., & Zeckhauser, R. (2017). Behavioral consequences of probabilistic precision: Experimental evidence from national security professionals. *International Organization*, 71, 803-826.

**Due 5/7: Quiz 9**

**Extra Credit**

**Exam 2: 5/9 at 4:00 pm**

**Due 5/9: Data Analysis Paper**

**Due 5/9: Evaluation of Group Members**

\* This calendar is subject to change.

## Critiques

### Learning objectives:

This assignment is related to the following course learning objectives:

*Apply quantitative reasoning to decision-making regarding intelligence, national security, and criminal justice.*

It is also related to the following INSS program learning objective:

*Apply social science methodology to the challenges of intelligence and national security.*

### Purpose:

As an intelligence or criminal justice professional, you may be required to read and understand the results of research in your field. Intelligence analysts are often required to incorporate the results of academic research studies into their analytic products. Criminal justice policymakers, judges, attorneys, and administrators must also consider research results when forming policy, making arguments or decisions about criminal cases, or carrying out justice programs. In addition to understanding the research, it is important to be able to recognize methodological flaws or invalid conclusions to avoid making inappropriate recommendations based on fallacious research.

### Task:

You are required to complete one critique assignment during the semester. You must 1) read an assigned research paper, and 2) answer questions about that paper. You should need no more than 350 words (about a paragraph) to answer each question. You will be tempted to include write a longer answer than is necessary. I want you to be able to provide a **thoughtful, concise, and informative answer**. This is not easy to do and will likely require you to write several drafts of your answer before you get it right.

Some questions will ask you to identify information about the research study. These are relatively simple questions, as they only require **recognition** and **description**. Other questions, however, require you to **critique** parts of the research study. This is much more difficult to do. It requires the ability to **apply** your knowledge in a critical manner, going beyond the information presented to you in class and in your readings to **identify** flaws in the study, as well as recommendations for improvement. The critiques are challenging assignments, but they will help you to learn the material at a deeper level. I recommend that you begin working on your critique as soon as possible to give yourself enough time to provide substantive and insightful answers.

**Do not quote from the article in your answers.** Find a way to summarize the information in your own words. Quoting from the article will result in a 50% deduction in points for that question.

These are individual assignments. Copying another student's answer will be considered plagiarism and dealt with accordingly (see Section VIII of the syllabus).

The critique will be completed in Blackboard using the Critique link (see the Navigation Pane).

The critique is due by midnight on April 18<sup>th</sup>.

**Research article to be critiqued:**

Gruenwald, J., Chermak, S., & Freilich, J. D. (2013). Far-right lone wolf homicides in the United States. *Studies in Conflict and Terrorism*, 36, 1005-1024.

**Grading:**

Each answer will be graded as follows:

**Is the answer thorough?**

*Relevant skill: Informative description*

- 100% Answer is thorough (all parts of the question are answered, the answer is specific enough to fully address the question, and the most important aspects of the material are provided).
- 75% Answer is mostly thorough (most parts of the question are answered or the answer is somewhat vague or a few important aspects of the material are omitted).
- 50% Answer is incomplete (only half of the parts of the question is answered or the answer is vague or about half of the important aspects of the material are omitted).
- 25% Answer is minimally complete (most parts of the question are not answered or most of the important aspects of the material are omitted).
- 0% No meaningful answer is provided.

**Is the answer correct?**

*Relevant skill: Identification and recognition*

- 100% All parts of the answer are correct. No incorrect information is provided.
- 75% All relevant parts of the answer are correct, but the student added irrelevant, incorrect information.
- 50% Some relevant parts of the answer are incorrect.
- 25% Most relevant parts of the answer are incorrect.
- 0% No meaningful answer is provided.

**Does the answer demonstrate the student's knowledge of relevant course material?**

*Relevant skill: Application*

- 100% The answer clearly incorporates relevant course material. It is clear from the answer that the student understands the material and can apply it to the specific study.
- 75% The answer incorporates relevant course material in a somewhat vague manner. It may be possible to infer student's understanding from the answer.

- 50% The answer briefly alludes to course material or refers to material that is not relevant. The answer does not demonstrate student's understanding.
- 25% The answer does not refer to class material at all.
- 0% No meaningful answer is provided.

**Is the answer concise?**

*Relevant skill: Summarization*

- 100% The answer is concise (no longer than a paragraph, does not include irrelevant information or redundant language).
- 75% The answer is mostly concise (longer than a paragraph or some irrelevant information is included or language is somewhat redundant).
- 50% The answer not concise (longer than a paragraph or includes a lot of irrelevant information and the language is redundant).
- 25% The answer is long-winded (much longer than a paragraph and includes a lot of irrelevant information and the language is redundant).
- 0% No meaningful answer is provided.

**(For critique questions only) Is answer insightful?**

*Relevant skill: Evaluation and criticism*

- 100% The answer is insightful, including (when relevant) both strengths and weaknesses of the pertinent parts of the study. Critique demonstrates originality and thoughtful consideration.
- 75% The answer is mostly insightful, but either omits some relevant strengths or weaknesses or lacks originality of thought.
- 50% The answer does not demonstrate thoughtful consideration; the critiques are overly general or not relevant to the study.
- 25% The answer does not include any critique or simply reiterates the limitations discussed by the authors; no original thought is demonstrated.
- 0% No meaningful answer is provided.

Your Critique grade is worth 20% of your total grade. Failure to turn in the critique on time will result in a 2% deduction from your grade for every day that it is late.

**Tips for success:**

1. Keep your answer concise, but...
2. Make sure you have answered all parts of the question.
3. Incorporate course content into your answer. You are **applying** that information to understand what you've read in the article. You are also using the information to **evaluate** the study.

4. Don't overgeneralize; be specific, say what you mean. Students tend to provide broad, vague responses when they are not familiar enough with the material.
5. Here's an [exercise](#) to learn how to minimize redundant language, or you can Google other tips.
6. A paragraph is generally 3-5 sentences in length, but can be longer as long as the ideas are tied together under the topic sentence.
7. READ THE STUDY CAREFULLY!
8. Give yourself plenty of time to work on the critique so that you may write several drafts of your answer. Compare your answer to the grading rubric to consider how it may be improved.
9. Proofread your answer to make sure that it is free of grammatical errors and that it makes sense. I can't grade your ideas, only how you express those ideas in writing.
10. You can use bullet points if you are asked to provide a list.
11. After you complete your critique, review the model answers and evaluate your own answers. You have to do this for a grade for Critique #1, but I recommend you do this for all the critiques.
12. After I have graded the critique, review the grading rubric for each question and any written feedback I've provided you. This [webpage](#) shows you how to access information related to your submitted assignments. If you think my evaluation of your answer contradicts your personal evaluation, email me and we can discuss it.

## Data Analysis Paper

### Learning objectives:

This assignment is related to the following course learning objective:

1. Analyze data by graphs, charts, and inferential statistical tests.
2. Acquire computing skills with SPSS.
3. Apply quantitative reasoning to decision-making regarding intelligence, national security, and criminal justice.

It is also related to the following INSS program learning objective:

*Apply social science methodology to the challenges of intelligence and national security.*

### Purpose:

If you are a thesis student and/or considering further graduate education, you may need to understand how to analyze quantitative data. Further, some intelligence analysts are tasked with understanding and summarizing reports that contain quantitative data. Others may be expected to produce reports that summarize quantitative data or make inferences based upon data. Criminal justice administrators may be tasked with understanding quantitative reports regarding the effectiveness of justice programs or may need to produce reports related to program efficacy and efficiency. Many criminal justice agencies must produce reports related to the incidence and prevalence of crime in their jurisdictions.

Intelligence and criminal justice professionals are often expected to work in teams to complete job-related tasks. Groupwork can be challenging, especially when there are diverse perspectives and/or some members do not conform to group expectations. These assignments will help to prepare you to engage in effective groupwork during your career.

### Task:

The research proposal and its related milestones are **group tasks**. Only one group member is required to submit group assignments in Blackboard.

You will be required to analyze and interpret a set of data using **inferential statistical tests** and write a 5-7 page (not including the title page, abstract, SPSS output, or references), paper about the results. As part of this assignment, you will be required to generate **two** research hypotheses and analyze the data in a manner that allows for those hypotheses to be tested. The paper will be written using 12-point Times New Roman or Calibri font with 1-inch margins. The paper must be written in the style of the American Psychological Association (see this [website](#) for more details). The paper must be submitted through the Data Analysis Paper link in Blackboard (see the Navigation Pane).

For this project, you may use one of the following databases or any other database that you can find that contains data relevant to intelligence and national security or criminal justice:



- The Global Terrorism Database managed by START at the University of Maryland. You may access and download this database at <http://www.start.umd.edu/gtd/>.
- The World Factbook published on the CIA website. You may access and download this database at <https://www.cia.gov/library/publications/the-world-factbook/index.html>.
- The Uniform Crime Report published by the Federal Bureau of Investigations can be found at <http://www.ucrdatatool.gov/>.
- The Bureau of Justice Statistics, run by the Department of Justice, also publishes a great number of databases at <http://www.bjs.gov/index.cfm?ty=dca>.
- The Department of Homeland Security publishes data, <https://www.dhs.gov/data>.
- Other criminal justice-related statistical databases can be found on the Criminal Justice Library Guide, <https://libguides.utep.edu/c.php?g=429759&p=2931115> and the National Archive of Criminal Justice Data, <https://www.icpsr.umich.edu/web/pages/NACJD/discover-data.html>
- Other databases of secondary data from all fields of research can be found using the Open Source Framework, <https://osf.io/>, and the Registry of Research Data Repositories, <https://www.re3data.org/>.
- The government has a central repository for data sets produced by government agencies, <https://www.data.gov>. You can search for any topic related to intelligence, security, or criminal justice.
- Based upon the information in one of these databases, you will *generate two hypotheses* (based upon a reasonable understanding of related issues) and test those hypotheses.

Your paper must include the following:

- Research question.
- Two hypotheses. **Note: these are research hypotheses, not statistical hypotheses.**
- A brief introduction introducing the reader to the topic and explaining your research hypotheses and the rationale for stating them. Your introduction should include a very brief literature review (at least three sources).
- A brief description about how the data were obtained (citing the database).
- A description of the statistical tests used and rationale for their use to test your particular hypotheses.
- Results of the statistical tests and interpretation of those results.
- A graph depicting the results.
- A brief discussion of the results and your conclusions based upon results.
- Attach a copy of the SPSS output for your statistical tests.

As you work on your Data Analysis Paper, you will be required to complete several milestones, which must be submitted on Blackboard. I will most likely give you feedback and require you to revise and resubmit the information. Revisions can also be submitted on Blackboard:

Hypotheses (link under Module 7)

The hypotheses should be:

1. Specific enough to be addressed in your paper.

2. Testable using the data that you have selected.
3. Testable using one of the inferential tests we will cover in the class.
4. Distinct from one another. In other words, each hypothesis test should inform the reader about something new.
5. Grounded in theory or previous research.

*Description of the Data Set (link under Module 8)*

Which data set will you use? You may reference one of the data sets listed above or any other data set. Please identify the following:

1. Web link to the data
2. Who produced the data?
3. Which variables will you be using to test your hypotheses?
4. How were the variables measured?
5. What is the scale of measurement of the variables?

This should be no longer than 1 page in length.

*Description of the Statistical Tests (link under Module 10)*

1. Which statistical tests will you be using to test your hypotheses?
2. Why do you think these tests are appropriate, given the scale of measurement and hypotheses you are testing?
3. Which is the causal (predictor, grouping) variable and which is the dependent variable (if applicable)?
4. How will you carry out the statistical test?

This should be no longer than 1 page in length.

There will also be tasks related to the formation of effective teams:

*Group Membership Post (link under Module 2)*

You will be required to choose your own group for this project. Groups should include no more than five members. Submit a post with your group membership.

*Group Contract (link under Module 3)*

Your group must complete a Group Contract (available on Blackboard) that describes group member roles and responsibilities, group norms, agreements on communication methods and meeting times, and other relevant information. This contract must be submitted on Blackboard.

*Group Progress Report (link under Module 8)*

Your group must submit a brief report (no more than one page) regarding your group's effectiveness in completing the required tasks. Please address the following points in your post:

1. Is the team making satisfactory progress toward completion of this assignment in a timely manner?
2. Is every member of the team honoring the terms agreed to in the team contract?
3. Are there any issues or conflicts the team is working to resolve?
4. Do you need to conference with me on any issues?

Evaluation of Group Members (link under 5/9)

**This is an individual task.** You will evaluate each member of your group on the following questions:

**1. How reliable was the group member?**

100% He/she responded to all or most messages, attended all/most group meetings, and submitted his/her portion of the work in a timely manner.

50% He/she responded to messages only about half of the time, attended only about half of the group meetings, and/or was often late submitting work.

0% He/she did not respond any/most messages, did not attend any/most group meetings, and was frequently late in submitting work.

**2. Rate the quality of the group members' contribution.**

100% The contribution included all or most required/agreed upon elements and met all or most of the requirements of the grading rubric. Work was professional and neat.

50% The contribution included about half of the required elements and/or met only about half of the requirements of the grading rubric. Work was somewhat sloppy or disorganized.

0% The contribution did not include any/most of the required elements and did not meet any/most of the requirements of the grading rubric. Work was sloppy, disorganized, and not fit to be included in the project.

**3. How respectful was the group member towards others in the group?**

100% The group member was respectful in all/most interactions with all/most group members.

50% The group member was respectful some interactions with group members.

0% The group member was not respectful in all/most interactions with all/most group members.

4. You may choose other relevant criteria on which to rate your group member.

**Due dates:**

Assignments

Data Analysis Paper 5/9

Milestones

Hypotheses 3/21

Description of Dataset 4/4

Description of Statistical Tests 4/20

Groupwork Tasks

Group Membership Post 2/9

Group Contract 2/16

Group Progress Report 4/11

Evaluation of Group Members 5/9

**Grading:**

**Paper clearly introduces the research question in the introduction. The research question is framed appropriately.**

*Relevant skills: Construction, application*

- 100% The paper introduces the research question in the appropriate section of the introduction.
- 75% The paper introduces the research question in the wrong section of the paper.
- 50% The paper introduces a research question that is not appropriate to the hypothesis tests.
- 25% The paper introduces a research question that is not appropriate to the hypothesis tests and is in the wrong section of the paper.
- 0% No research question is introduced in the paper.

**Structure of the paper is logical and easy to follow. Each section of the presentation has a clearly defined purpose and transitions between sections are logical. The presentation has an introduction, body, and conclusion**

*Relevant skill: Organization*

- 100% Structure of the paper is logical and easy to follow. Each section of the presentation has a clearly defined purpose and transitions between sections are logical. The presentation has an introduction, body, and conclusion
- 75% There are one or two problems with the structure of the paper. Some headings are applied inappropriately, or the purpose of some sections are unclear or transitions between some sections are missing.
- 50% Either the introduction, body, or conclusion are missing, or headings are used only sparingly or the paper lacks clear structure.
- 25% At least two of the following are missing: introduction, body, conclusion. Headings are used sparingly or inappropriately, and the paper is disorganized.
- 0% There is no apparent structure to the paper. Thoughts are disorganized and the purpose of sections of the paper are not at all clear.

**Paper includes a brief literature review and introduction that introduces the reader to the topic.**

*Relevant skill: Summarization, application, building and connecting ideas*

- 100% The literature review is concise, mentioning the most relevant aspects of the designated studies. The literature review is situated appropriately within the introduction and includes at least 3 sources. The introduction describes the research question, relevant theory (where applicable), and introduces hypotheses.
- 75% The introduction omits a few of the necessary elements or the literature review includes too few or too many sources or the review needs to be more concise.
- 50% The literature review is long-winded or includes too few or too many sources. Several elements of the introduction are missing.
- 25% The literature review is sparse, and most elements of the introduction are missing.
- 0% The introduction excludes most/all elements, and no literature review is included.

**Research hypotheses are clearly stated and appropriately formatted. Hypotheses are logically justified by the information presented in the introduction.**

*Relevant skill: Construction, application*

- 100% Two hypotheses are clearly stated and formatted as predictions about expected observations. Hypotheses are written as research hypotheses, not statistical hypotheses (e.g., null, and alternate hypotheses).
- 75% Hypotheses are not formatted appropriately, or they are not logically justified.
- 50% Only one hypothesis is included.
- 25% Only one hypothesis is included, and it is not formatted appropriately.
- 0% Hypotheses are not included.

**The paper includes a short description of how the data were produced. Sources are cited appropriately. Relevant information about the data is provided.**

*Relevant skill: Summarization, evaluation, application*

- 100% The description of the data includes a description of who produced the data (including a citation and reference), how the data were produced, and information pertaining to the reliability and validity of the data. The relevant variables are listed and described, including the scale of measurement and whether the variables are binary, categorical, discrete, and/or continuous. The sample size is provided, as well as a description of sampling procedures and the population from which the sample was obtained. A brief description of sampling procedures should also be provided.
- 75% Less than three of the above elements are either omitted or not thoroughly addressed.
- 50% 4 - 7 of the above elements are either omitted or not thoroughly addressed.

- 25% 9 – 10 of the above elements are either omitted or not thoroughly addressed.
- 0% None of the required elements are included.

**The paper includes a description of the inferential statistical tests used.**

*Relevant skill: Summarization, application*

- 100% The tests are described appropriately (what information is provided by the test? How does the test work?). Information about the predictor, independent, or grouping variable(s) and the dependent or response variable (if appropriate) is included. Justification of the adequacy of the statistical tests to address the hypotheses is included, as well as justification of the fit of the test to the scale of measurement of the variables.
- 75% No more than one element is missing or one or two incorrect facts about the statistical tests are included.
- 50% Two or three of the elements are missing or several incorrect facts about the statistical tests are included.
- 25% More than three elements are missing or several incorrect facts about the statistical tests are included, or the test is not appropriate.
- 0% No information about the statistical tests are included.

**The results of the statistical tests are described appropriately. The results are interpreted correctly.**

*Relevant skill: Application, analysis, evaluation*

- 100% The results of the statistical tests are written consistent with APA style. The following details are included: descriptive statistics, the value of the test statistic (including degrees of freedom, where appropriate), the  $p$  value, the effect size, and the confidence interval of the descriptive statistic. Additionally, an interpretive statement is included that describes, in words, the meaning of the result and the direction of the effect (where applicable).
- 75% One or two of the details are missing or incorrect or an interpretive statement is missing.
- 50% Three or more of the details are missing or incorrect or an interpretive statement is missing.
- 25% Three or more of the details are missing or incorrect and interpretive statement is missing.
- 0% No description of the results is included.

**A graph is included in the results section.**

*Relevant skill: Construction, summarization*

- 100% The graph is appropriately used to describe the data and is formatted according to APA style. The graph is appropriate, considering the scale of measurement of the variable and the parameters being estimated. The graph includes appropriately labeled axes, including units of measurement, and a title.
- 75% The graph is missing one or two necessary elements or is labeled incorrectly.

- 50% The graph is missing one or two necessary elements and is labeled incorrectly or is not formatted appropriately.
- 25% The graph is missing several elements and is labeled incorrectly and is not formatted correctly or is the wrong graph to use to represent the data.
- 0% A graph is missing.

**The paper includes a short discussion of the results.**

*Relevant skill: Evaluation, summarization*

- 100% The discussion summarizes the results in non-statistical terms, addresses whether or not the results support the hypotheses, and describes the implications of the results for the broader field of study.
- 75% The summary or implications are not thoroughly discussed, or the evaluation of the hypotheses is missing.
- 50% The summary of results or implications are missing or there are errors in the discussion, or the discussion lacks critical thought.
- 25% The summary and implications are missing or there are serious errors or problems with the depth of discussion.
- 0% A discussion section is missing.

**The statistical test was performed appropriately in SPSS.**

*Relevant skill: Analysis, application*

- 100% SPSS output is included with the paper. Only the most relevant tables within the output are included. The output indicates that the statistical tests were performed appropriately and that the results were interpreted correctly.
- 75% Some irrelevant information was included in the SPSS output included with the paper or the output indicates one or two minor errors in the interpretation of the results.
- 50% The output indicates several errors in the interpretation of the results.
- 25% The output indicates that at least one test was performed incorrectly.
- 0% SPSS output was not included with the paper.

**Paper is well-written, free from grammatical, punctuation, and spelling errors. Paper is written in APA style.**

*Relevant skill: Writing skills: grammar, punctuation, spelling, Formatting*

- 100% The paper is well-written, free from grammatical, punctuation, and spelling errors and is written in APA style (includes appropriately formatted title page, abstract, and headings).

- 75% The paper is generally well-written, but there are a few grammatical, punctuation, or spelling errors or some inconsistencies with APA style.
- 50% The paper includes many grammatical, punctuation, or spelling errors or is very inconsistent with APA style.
- 25% The paper is poorly written, including frequent errors in grammar, punctuation, or spelling or is very inconsistent with APA style.
- 0% The paper is so poorly written that it is difficult to understand the ideas being presented.

**Paper includes appropriately formatted citations and references. Sources are appropriate.**

*Relevant skill: Sourcing*

- 100% The paper includes in-text citations and references written in APA style. Citations are included any time information is presented that was obtained from another source. Sources are appropriate: they are obtained from academic journals, government reports, reputable news agencies, or other sources that are either peer-reviewed or have established standards for publication. Inappropriate sources include Wikipedia, blogs, tabloids, magazines, or social media.
- 75% Citations or references are inappropriately formatted or too few citations are included or only one source is inappropriate.
- 50% Citations and references are inappropriately formatted, or more than one source is inappropriate.
- 25% Citations and references are inappropriately formatted, and more than one source is inappropriate.
- 0% Citations and references are missing.

**Paper is 5-7 pages in length (not including the title page, abstract, or references), written in 12-point Times New Roman or Calibri font, with 12-inch margins.**

*Relevant skill: Formatting*

- 100% Paper is 10-15 pages in length (not including the title page, abstract, or references), written in 12-point Times New Roman or Calibri font, with 12-inch margins.
- 75% Paper is either too long or too short by no more than a page or is not written in the correct font or has margins that are too small or large.
- 50% Paper is either too long or too short by more than a page or is not written in the correct font or has margins that are too small or large.
- 25% Paper is either too long or too short by more than two pages or is not written in the correct font or has margins that are too small or large.
- 0% Paper is either too long or too short by more than two pages and is not written in the correct font and has margins that are too small or large.



The Data Analysis Paper will count 25% towards your total grade. Your grade on this assignment will be a weighted average of the above listed criteria and the evaluation of you provided by your group members. The evaluations will be averaged and your final grades on the assignment will be calculated as follows:

Criteria (75%) + Average evaluations (25%) = Total grade

Failure to submit any of the milestones by the due dates will result in a 1% deduction from your grade for each day that it is late. Failure to submit any of the group tasks by the due dates will result in a 1% deduction from your grade for each day that it is late. Failure to submit the Data Analysis Paper on time will result in a 2% deduction from the grade for each day that it is late.

**Tips for success:**

1. Here's an [exercise](#) to learn how to minimize redundant language, or you can Google other tips.
2. Proofread your paper to make sure that it is free of grammatical errors and that it makes sense. I can't grade your ideas, only how you express those ideas in writing.
3. Visit the Writing Center if you think you need help writing an error-free paper.
4. Carefully follow the guidelines presented in this handout.
5. Pay attention to the due dates. Plan your group meetings well ahead of the due dates; give yourselves plenty of time to complete the tasks.
6. Assign one group member the task of integrating each group member's work, so that the final paper is a seamless representation of the group's work.