PMAP 8121
Professor Gregory Streib
CLSO 300
Thursday 7:15-9:45
Course Number 12739

APPLIED RESEARCH METHODS AND STATISTICS, PART ONE

This course will introduce you to data analysis—the thinking, the analysis, the software language, and the presentation. We will approach data analysis as a marketable skill and provide the knowledge and skills needed to perform this function as in-house analysts and consultants. Students will also become better consumers of data analysis work conducted by others. PMAP 8131 is a continuation of this course in some respects, but core thinking and presentation skills will be mastered in the 8121 class.

REQUIRED TEXTBOOKS:


RECOMMENDED SOFTWARE:

We will be using SPSS software in this class. The leasing option will probably work best for most. Students can use this software in the GSU labs, or they can purchase a student version to use at a more convenient location. I encourage students to share their experiences with different retailers on our iCollege bulletin board Class Information and Discussions). This site comes up in my searches. Search for the best price! I think we can be flexible on the software versions that students use. Beware of unrealistic plans to do your SPSS work at GSU. You need to practice.

OFFICE HOURS:

My scheduled office hours are Wednesday from 3:00 until 5:00 in room 316 of the Andrew Young School. I recommend checking the course calendar on iCollege if you are planning a visit. I try to stick to these posted hours, but the university has other plans for me sometimes. The calendar will reflect any needed changes.
We can also try to schedule meetings at other mutually convenient days and times. *You can reach me by telephone at (404) 939-1235 most all the time.* Stay on the line, if I am away, and leave a message my voice mail. This Google Voice number rings multiple phones, emails me messages, et cetera. Texts are also possible. There is no need to call multiple numbers to reach me on the phone. I am not a multi-tasker, so do not assume that I am constantly checking my email. *Call or text me if you have an urgent issue; you should also consider making a post on our iCollege discussion board.*

I can do online meetings using iCollege and Google Hangouts. This is often best for students who want to review their class work without the trip to campus.

**Class Learning Objectives**

The Department of Public Management and Policy has set the following learning objectives for this course:

- Apply basic concepts of measures and using data sets
- Demonstrate skills using the computer to perform basic statistical analysis.
- Demonstrate ability to develop hypotheses, choose appropriate statistics to test them, and correctly describe the results.
- Demonstrate ability to apply introductory statistical techniques to analyze questions facing public and nonprofit managers.
- Demonstrate an ability to analyze problems and develop solutions using written, analytical, or quantitative skills.
- Demonstrate an ability to effectively communicate verbally or through writing (depending on the nature of the course) about public or nonprofit policy and management issues and problems.

**Class on the Web**

This course may offer more online elements than others may, so students need to be aware of some of the possible differences. Avoid surprises!

**iCollege Commitments**

The iCollege page is the organizational hub for the 8121 class. You can find everything you need on that site. *This link takes you to the iCollege page (when iCollege is open).*
I consider the news page (the top-left column on the front page) and the *Class Information and Discussions* bulletin board (communications/discussions) to be essential sources for course information. The iCollege discussion board allows student posts—even anonymously. *One of our bulletin boards is a blog*; this is where you will learn about related topics and cutting-edge developments. Ongoing discussions are encouraged.

I extend assignment deadlines if there is an iCollege outage. Never worry about this. There is no need to contact me! You are responsible for iCollege access and knowledge, but students will not be held accountable for system failures.

**Submitting Class Assignments**

You must submit all your work in iCollege, and there are no exceptions. Students frequently think that their situation is so unique that this rule does not apply, but this is never going to happen. *All submitted files must be in Word format.* I will return materials saved in other formats. *I also require that every submitted file include your name in the file name.*

The iCollege assignment tool shows your submitted files, and you can even view them. There is no reason submit the wrong file or wonder if your submission was successful. *Submit work and then double-check your submission.* Students are often interested in doing revisions, but they are only allowed when your grade is below 80. *Even then, only one revision is allowed.* *Submitting an assignment is not a trial run.*

I grade assignments using Turnitin, which runs inside iCollege. You will find additional information on Turnitin in my writing tips. Turnitin helps you make sure all Internet materials are properly cited. I do find plagiarism in 8121 work.

I also provide a Turnitin Test Bed assignment. This is a private space where you can experiment with Turnitin. You will find this assignment at the top of the iCollege drop box.

**Accessing Class Materials**

You will find materials for individual classes on the iCollege page in their designated folders a week or two before classes occur. Past lectures are also available on iCollege.

**The Online Syllabus**

This class does not use paper products. Even the syllabus is a dynamic electronic document. I update it when needed, and it is always current. The syllabus is the last word on many class issues. Thus, you may miss out if you print the class syllabus. I
inform students about significant changes, of course, but I make many small tweaks across each semester. *This course may offer more online elements than others do, so students need to be aware of some of the possible differences.*

**CLASS ASSIGNMENTS:**

Students in this course will be expected to complete four exercises and two exercise assignments. All assignments will be submitted electronically, via the class home page. Each of these assignments will be discussed in greater detail below:

- **Exercise Assignment One:** This assignment will introduce you to the SPSS software that we will be using in class. Submit a Word document.

- **Exercise Assignment Two:** Your job is to complete an SPSS exercise that is available on the class home page. Submit a Word document.

- **Exercise Assignment Three:** Your job is to complete an SPSS exercise that is available on the class home page. Submit a Word document.

- **Exercise Assignment Four:** Your job is to complete an SPSS exercise that is available on the class home page. Submit a Word document.

**Data Memos**

You must complete two short data memos in this course. The length should remain less than 5 pages, including tables and figures. These exercises demand more in terms of problem solving, critical thinking, and writing style. The goal is to develop your ability to share research findings with broader audiences--those outside a data analysis class. These exercises might be actual cases or data sets pertaining to specific problems or issues. *The class writing tips may provide some ideas for the exercise assignments, but they are focused more on the data memos.* Writing style and data presentation matter for these assignments, which students should envision as work projects for a demanding agency or consulting firm.

**POLICY ON LATE ASSIGNMENTS:**

Your instructor is not going to police assignment deadlines. Take a bit of extra time if you need it, but remember that every effort has been made to distribute course work in a sensible way. In short, missing a deadline often puts students on a slippery slope. Sticking to the posted deadlines is strongly recommended. *Students falling behind and/or attempting to set their own pace is our biggest challenge. We all suffer when I am teaching multiple versions of PMAP 8121 to the same students at the same time.*
ATTENDANCE POLICY:

I focus on student learning and I will not be monitoring attendance, but students cutting class is part of the syndrome noted above. We are all over-committed these days, but students will not master the material if they miss classes and proceed to study new material out of sequence. At an absolute minimum, missing a class requires a review of the missed lecture and other class materials. Attending a help session with questions can also help.

THE GSU COMPUTER LABS:

The GSU labs are state-of-the-art facilities which allow students to connect to the Internet, access mainframe computers, use SPSS and other software, and print different types of output. Each lab has its own hours, and there are some rules to master. Take the time to get acquainted with these facilities. Lab problems are your problem. Strictly speaking, you probably do not need lab access if you have leased SPSS and have MS Word and Excel. Stuff goes wrong occasionally, however. Lab access may become important to you.

Online Classes:

We can hold some of our classes online if there is a student interest (and a commitment to working out the details). Students access scheduled online sessions from our iCollege page.

Look at the menu at the top of the class home page for PMAP 8121 and select “Communications” and “Blackboard Collaborate.” Imminent sessions will display automatically. You can find out about upcoming sessions by using the filter tool available on the Online Rooms page. Toggle to “Upcoming Sessions,” for example.

- Start getting ready for a first session at least 45 minutes early. We will start any online sessions at 8pm to give students time to prepare.
- Loading the software the first time can take longer than you might think and students occasionally struggle with the technology needed to talk.
- There is an audio wizard under tools on the menu that you should always use when starting a new session. There is also a dial-in number.
- I will ask students to leave if they are not able to talk when the session starts. I will be around 15 minutes before the session begins to help guide people through any talking challenges.

KEEP GOOD RECORDS:

Given the cumulative nature of the material presented in this course, students are strongly advised to maintain good records. This means keeping good, organized notes, and maintaining copies of your ongoing classwork. Microsoft OneNote is perfect for keeping track of your class activities! Statistics learning is cumulative and reviewing your past steps is often helpful. You may find yourself reviewing your notes during PMAP 8131.
EXAMINATIONS:

There will be a final exam in this course, which will follow the case/memo form of the data memos. The timing of the final and the due date is not negotiable due to the semester deadlines that apply. Check your calendar and make sure you will have time to completing this exam properly and doing well.

Any changes must be prearranged with your instructor.

GRADING POLICY:

Final course grades will be determined as follows:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four Exercise Assignments (75 Points Each)</td>
<td>300 Points</td>
</tr>
<tr>
<td>Two Data Memos (200 Points Each)</td>
<td>400 Points</td>
</tr>
<tr>
<td>Final Exam</td>
<td>300 Points</td>
</tr>
<tr>
<td><strong>Total Possible Points</strong></td>
<td><strong>1000 Points</strong></td>
</tr>
</tbody>
</table>

Students must earn 900+ points to receive a grade of "A," 800+ points to earn a "B," and 700+ points to earn a grade of "C," etc. An A indicates excellence, and a B is competent work. Incomplete grades require advance arrangements. The class writing tips, the memo format, and analytical skills are the foundation for my definition of “A” work.

I will give plus and minus grades when a grade is 15 points from an adjacent grade. For example, a final point total of 815 or less is a B-. Likewise, a score of 885 or above is B+. An A+ is possible for work of extraordinary quality across the entire class.

Grades will appear on iCollege when the grading is done. Assignments worth over 100 points will be displayed on a 100-point scale (and then weighted).

PLAGIARISM OR CHEATING:

Students need to do their own work. This practice and experience helps students master the knowledge and skills covered in this class. Students plagiarizing or cheating in any form will face disciplinary action that could result in receiving an “F” in this course, suspension, or expulsion from the University. Your instructor will act on evidence of plagiarism. It is the student’s responsibility to know what plagiarism is and when it happens:

Plagiarism is presenting another person’s work as one’s own. Plagiarism includes any paraphrasing or summarizing of the works of another person without...
acknowledgment, including the summarizing of the work of another student. Plagiarism frequently involves a failure to footnote AND quote the paragraph, sentences, or phrases written or spoken by someone else. The submission of research or completed papers or projects by someone else is plagiarism, as is the unacknowledged use of research sources gathered by someone else when forbidden.

Failure to indicate the extent and nature of one’s reliance on other sources is also a form of plagiarism. *It is also plagiarism to reuse material prepared for other courses.* The student is responsible for understanding the legitimate use of sources, the appropriate ways of acknowledging academic, scholarly, or creative indebtedness, and the consequences of violating this responsibility.¹

Areas that may need more clarification include the following:

- You may not reuse material developed for other classes.
- **You may not collude with other students (or anyone else, for that matter) on the development of your work for this class.** You may not pay (or otherwise employ) an editor or statistician, for example.
- You cannot copy text from the Internet and submit this work as your own. Nor does adding a footnote solve the problem. **Direct quotations require quotation marks AND a footnote.** *(Using the Word footnote feature is a class requirement.)*

¹ See Section 409/Instructional Information.
THE COURSE OUTLINE

CLASS ONE: COURSE INTRODUCTION
(January 12)

We will discuss the importance of applied research methods and work with the SPSS software.

❖ Read Chapter one in the Salkind book and Study Appendix A (SPSS in Less Than 30 Minutes).
❖ A practice exercise will be available after this class. Practice exercises are not graded, but they will generate some class discussion and allow us to track our progress. Practice is how you succeed in this class!
❖ Review the class foundation materials, the news page, and the bulletin boards.

CLASS TWO: COUNTING RESPONSES FOR A SINGLE VARIABLE
(January 19)

We will learn some basic procedures for counting the number of responses for a single variable.

❖ The first exercise assignment is due by 2 pm on January 26th. Please note that all class assignments must be submitted on our iCollege page. Writing matters; attempt the memo format as presented in our class writing tips. Turnitin and Grammarly are strongly recommended. Get off to a good start!
❖ There will be a help session on the 21st at 8:30am on BlackBoard Collaborate. I recommend getting a start of the exercise before this session. Then you show up with some questions. This is also a great opportunity to practice your online meeting skills.
❖ Review the class foundation materials, the news page, and the bulletin boards.

CLASS THREE: COMPUTING DESCRIPTIVE STATISTICS
(January 26)

❖ We will learn how to calculate some basic descriptive statistics.
❖ Read chapters two and three in the Salkind book.
❖ A practice exercise will be available after this class. Practice exercises are not graded, but they will generate some class discussion and allow us to track our progress. Test your skills and ask questions!
❖ Review the class foundation materials, the news page, and the bulletin boards.
CLASS FOUR: COMPARING GROUPS OF DATA—Class is online tonight! (February 2)

We will learn some techniques for comparing groups of data.

❖ Read chapter four in the Salkind book.
❖ The second exercise assignment is due by 2 pm on February 9th. Please note that all class assignments must be submitted on our iCollege page. Writing matters; use the memo format as presented in our class writing tips and related readings.
❖ Review the class foundation materials, the news page, and the bulletin boards.
❖ There will be a help session on the 4th at 8:30am on BlackBoard Collaborate.

CLASS FIVE: CROSSTABULATION TABLES (February 9)

We will learn basic techniques for crosstabulation analysis.

❖ A practice exercise will be available after this class. Practice exercises are not graded, but they will generate some class discussion and allow us to track our progress. Test your skills and ask questions!
❖ Review the class foundation materials, the news page, and the bulletin boards.

CLASS SIX: PLOTTING DATA/CORRELATION (February 16)

We will learn how to produce data plots.

❖ Read chapter five in the Salkind book.
❖ Review the class foundation materials, the news page, and the bulletin boards.
CLASS SEVEN: CLASS WRITING REVIEW—*Shall we meet on-line?*  
(February 23)

The goal of this class is to assure that students are ready to complete the first exercise assignments. Experimenting with the writing requirements for the exercises will help you, but the data memos should meet a higher standard. We may also find that students have accumulated some data analysis questions.

- The first data memo is due by 2pm on March 9th.
- Review the class foundation materials, the news page, and the bulletin boards.

CLASS EIGHT: INTRODUCTION TO MEASUREMENT AND HYPOTHESIS TESTING  
(March 2)

We will introduce basic hypothesis testing concepts.

- Read chapters seven and eight in the Salkind book.
- Review the class foundation materials, the news page, and the bulletin boards.

CLASS NINE: STATISTICAL INFERENCE—*Shall we meet on-line?*  
(March 9)

We will apply our knowledge of hypotheses and distributions to make statistical inferences.

- Read chapters nine and fifteen in the Salkind book.
- This video may help you understand the hypothesis testing process—good review!
- The third exercise assignment is due by 2pm on March 23rd. Please note that all class assignments must be submitted on our iCollege page. Writing matters; use the memo format as presented in our class writing tips and related readings.
- Review the class foundation materials, the news page, and the bulletin boards.

**SPRING BREAK (MARCH 16)**
CLASS TEN: THE NORMAL DISTRIBUTION  
(March 23)

We will learn how to conduct one sample z-tests.

❖ Read chapter Ten in the Salkind book.
❖ A practice exercise will be available after this class. Practice exercises are not graded, but they will generate some class discussion and allow us to track our progress. Test your skills and ask questions!
❖ Review the class foundation materials, the news page, and the bulletin boards.

CLASS ELEVEN: INTRODUCTION TO T-TESTS  
(March 30)

We will learn how to conduct one sample t-tests.

❖ The fourth exercise assignment is due by 2 pm on April 6th. Please note that all class assignments must be submitted on our iCollege page. Writing matters; use the memo format as presented in our class writing tips and related readings.
❖ There will be a help session on the 1st at 8:30am on BlackBoard Collaborate.
❖ Review the class foundation materials, the news page, and the bulletin boards.

CLASS TWELVE: HYPOTHESES ABOUT TWO RELATED MEANS—Shall we meet on-line?  
(April 6)

We will learn how to evaluate differences between two related means.

❖ Read chapter 12 in the Salkind book.
❖ A practice quiz will be available after this class. Practice quizzes are not graded, but they will generate some class discussion and allow us to track our progress. Test your skills and ask questions!
❖ The second data memo is due by 2pm on April 20.
❖ There will be a help session on the 8th at 8:30am on BlackBoard Collaborate.
❖ Review the class foundation materials, the news page, and the bulletin boards.
**CLASS THIRTEEN: HYPOTHESES ABOUT TWO INDEPENDENT MEANS**  
(April 13)

We will learn how to evaluate differences between two independent means.

❖ Read chapter 11 in the Salkind book.  
❖ Review the class foundation materials, the news page, and the bulletin boards.

**CLASS FOURTEEN: MEASURES OF ASSOCIATION**  
(April 20)

We will apply statistical tests to crosstabulation tables.

❖ Read chapters 15 and 17 in the Salkind book.  
❖ Review the class foundation materials, the news page, and the bulletin boards.  
❖ Any outstanding assignment revisions are due by 2pm on April 23rd.

**FINAL EXAM**  
(April 30)

❖ Your take-home exam will be available in our class on April 20th, and it will focus primarily on measures of association.  
❖ The exam must be submitted to your instructor by 2 pm on Sunday, April 30th. No exams will be accepted after the deadline.