PSYC 300-003 – Statistics in Psychology

Mondays and Wednesdays, 1:30pm – 2:45pm. Innovation Hall, Room 206

Instructor

Dr. Martin Wiener

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Office Location

David King Hall, Room 2055

Office Hours

Wednesdays, 10:00am-11:50am,

Grade Criteria

Grade	Percent
A	90-100%
B	80-89.9%
C	70-79.9%
D	60-69.9%
F	Below 60%

Course Overview

"Data is the sword of the 21st century, those who wield it well, the Samurai." – Jonathan Rosenberg, former Senior VP of Products at Google.

This course will cover the basics of statistics in psychology and the behavioral sciences. No matter what kind of psychology you are interested in (clinical, industrial, social, neuro, etc.), you WILL need to understand statistics. Even if you aren't interested in pursuing psychology as an academic major or career, having an understanding of statistics will provide you with a toolkit that you can use to better slice through the barrage of information that will be thrown at you throughout your lives. I would argue that this semester in particular (Fall, 2016) you will be hearing a lot more statistics than average, and so the tools in this class will be all that more useful.

Required Text

Statistics for the Behavioral Sciences (2nd edition), *Gregory J. Privitera*. Thousand Oaks, CA: Sage Publications. ISBN: 978-1-4522-8690-7

Online support can be found at: https://edge.sagepub.com/priviterastats2e/student-resources

Evaluation Criteria

1. **Exams:** Four exams will be given (three during the semester, and one final exam). Your lowest exam grade of the first three exams will be dropped. The remaining two exams are worth 20% of your grade, while the final exam is worth 30%. The final exam will be cumulative. All exams will be held **during the lab section** on the date they are listed below.

2. **Lectures:** No attendance will be taken. Nevertheless, you are expected to attend every class. Your class participation is worth 10% of your grade, and will be based on your involvement in the discussion of lecture material (asking questions, etc.). In-class assignments will also be done, and the only way to complete these will be to come to class and engage in the material.

3. **Research Participation:** Each student is required to participate in **three** hours of credit as a participant in psychology experiments. Alternate experiences may be substituted. You can sign up for a Sona Systems account by going to the website (http://gmu.sona-systems.com/) and then clicking on the "Request an account here" link under New Participant. Those who do not participate in all three hours will have their Lecture participation reduced (no Sona hours = 10% of your grade).

4. **Lab Assignment/Participation:** The lab portion of this course accounts for 20% of your grade. In each lab, you will engage directly in the material through exercises with SPSS, and learn to perform statistical data analysis and hypothesis testing.

General Policy

Honor Code: George Mason University has an Honor Code, which requires all members of this community to maintain the highest standards of academic honesty and integrity. Cheating, plagiarism, lying, and stealing are all prohibited. All violations of the Honor Code will be reported to the Honor Committee. See honorcode.gmu.edu for detailed information.

Disability Statement: If you are a student with a disability and you need academic accommodations, please see me and contact the Disability Resource Services (DRS) at 703-993-2474. All academic accommodations must be arranged through that office. Please see me as soon as possible about this, as I will not adjust grades for exams after they have been given.

Make-up policy: Make-up exams will only be given if exceptional circumstances are claimed AND substantiated. I must see proof of what you are claiming to verify that it is true.

Add/Drop Deadlines: Please note that the *last day to add classes* is **September 5th**. The last day to drop a course *with no tuition penalty* is also **September 5th**. The last day to drop *with a 33% tuition penalty* is **September 19th**. The final day to *drop with a 67% tuition penalty* is **September 29th**. After September 29th, withdrawal from the class requires approval of the dean and is only allowed for nonacademic reasons.

Official Communications via GMU E-mail: Mason uses electronic mail to provide official information to students. Examples include communications from course instructors, notices from the library, notices about academic standing, financial aid information, class materials, assignments, questions, and instructor feedback. Students are responsible for the content of university communication sent to their Mason e-mail account and are required to activate that account and check it regularly. If class has to be canceled, you will be informed via e-mail. Information will be provided in the e-mail about making up the missed class.

Technology: For this class, the only requirement is that you bring a calculator with you. Powerful graphing calculators are not needed – all you will require is a calculator that can calculate square roots ($\sqrt{}$) and exponents (x^2). Please note that calculators are necessary for completing the exams. In the labs, you will be using the computer program SPSS (Statistical Package for the Social Sciences; IBM Corporation).

Course Schedule:

Week	Date	Lecture topics/Activities	Assigned reading
1	8/28	Introduction to the Course	
	8/30	Summarizing Data: Frequency and Visualization	Chapters 1 and 2
2	9/4	NO CLASS	
	9/6	Summarizing Data: Central Tendency	Chapter 3
3	9/11	Summarizing Data: Central Tendency	Chapters 3
	9/13	Summarizing Data: Variability	Chapter 4
4	9/18	Summarizing Data: Variability	Chapter 4
	9/20	Normal Distributions and the Central Limit Theorem	Chapter 5

5	9/25	Normal Distributions and the Central Limit Theorem	Chapter 6
	9/27	Sampling Distributions	Chapter 7
	10/2	**EXAM 1**	
6	10/2	Sampling Distributions	Chapter 7
	10/4	Hypothesis Testing	Chapter 8
7	10/10*	Hypothesis Testing	Chapter 8
	10/11	Testing the Difference of Means	Chapter 9
8	10/16	Testing the Difference of Means	Chapter 9
	10/18	Testing the Relation Between Means	Chapter 10
9	10/23	NO CLASS	
	10/25	NO CLASS	
10	10/30	Testing the Relation Between Means	Chapter 10
	11/1	Confidence in Statistical Estimates	Chapter 11
	11/6	**EXAM 2**	
11	11/6	Analysis of Variance Between Subjects	Chapter 12
	11/8	Analysis of Variance Between Subjects	Chapter 12
12	11/13	Analysis of Variance Within Subjects	Chapter 13
	11/15	Analysis of Variance Within Subjects	Chapter 13
13	11/20	Analysis of Variance: Factorial	Chapter 14
	11/22	NO CLASS	
14	11/27	Analysis of Variance: Factorial	Chapter 14
	11/29	Correlations	Chapter 15
	12/4	**EXAM 3**	
15	12/4	Correlations	Chapter 15
	12/6	Review of Materials	
16	12/13	**FINAL EXAM, 1:30-4:15pm**	

Additional Information: The above topic list is the intended schedule for this course. However, we may devote more time to certain topics to ensure that everyone understands the material.

*****Class will be held on Tuesday, 10/10, following the Columbus Day Holiday.