



**INSTRUCTOR INFORMATION**

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 & By Appointment

**TEACHING ASSISTANT INFORMATION**

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**REQUIRED MATERIALS**

1. Privitera, G.J. (2015). *Essential Statistics for the Behavioral Sciences (Brief edition)*. Thousand Oaks, CA: SAGE Publications.  
 -- *Essential Statistics for the Behavioral Sciences* paperback: 978-1483353005  
  
 -- **A copy of the textbook will also be available at the Morris Library Course Reserves. They can only be checked out for 2 hours at a time, but it is free!**
2. A calculator  
 -- It does not need to be fancy. We will only need it to make basic calculations (e.g., adding, subtracting, square root). You will NOT be allowed to use your phone as a calculator during the exams.
3. SPSS  
 -- You will have free access to SPSS in the classroom and in campus [computing sites](#). If you like, you can also buy or rent the program through [OnTheHub](#) but it is rather expensive.  
  
 -- You also have free access to SPSS via remote desktop. The instructions can be found in Canvas > Modules > Welcome. These instructions assume that you are accessing it while on campus. If you ever plan on accessing it while away from campus, then you must be connected [through VPN](#) first. Then, you can follow the instructions. Please see me or the TA for help early in the semester.

## COURSE OVERVIEW

Many students who decide to major or minor in psychology are surprised at the emphasis of statistical understanding in our curriculum – *Gah! Maths and psychology?! I thought I was done with that when I chose this major/minor!* The field of statistics helps researchers rigorously test hypotheses and helps determine the knowledge that is presented in textbooks and applied to practical settings.

The combination of statistics and research methods form the foundational knowledge necessary for students pursuing higher education in any area of psychology. This course will help you learn the *language* of statistics, which will allow you to become better consumers of the quantitative content of and analyses used in psychological research.

It is my intention to spend the majority of class time actually “doing statistics” and providing further clarification on course readings. I do NOT intend to heavily lecture on material that is covered in the book. Doing well in this course means preparing inside *and* outside of this course. Come with questions, engage in discussion, and think about why you’re doing what you’re doing. Understand that when I ask “Why?” it helps you to evaluate and defend your conclusions. There will be an emphasis on being able to explain statistical concepts in writing throughout almost all course requirements.

## **HOW DOES THIS COURSE FIT IN THE BIGGER PICTURE OF YOUR EDUCATION?**

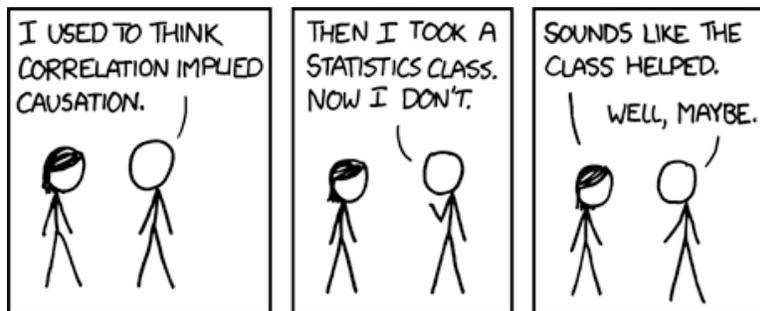
This introductory statistics course was designed in consideration of UD’s General Education Goals for Success and the American Psychological Association (APA) Guidelines for the Psychology Major. I have highlighted the goals that are most tied to the specific course objectives stated below.

- [UD General Education Goals](#)
  1. **Read critically, analyze arguments and information, and engage in constructive ideation.**
  2. **Communicate effectively in writing, orally,** and through creative expression.
  3. Work collaboratively and independently within and across a variety of cultural contexts and a spectrum of differences.
  4. Critically evaluate the ethical implications of what they say and do
  5. **Reason quantitatively, computationally, and scientifically.**
  
- [APA Guidelines for the Undergraduate Psychology Major](#)
  1. **Knowledge Base in Psychology**
  2. **Scientific Inquiry and Critical Thinking**
  3. Ethics & Social Responsibility in a Diverse World
  4. **Communication**
  5. **Professional Development**

**COURSE OBJECTIVES**

All readings, assignments, and in-class exercises are designed to help your learning of the following goals. By the end of the course, students will be able to:

1. Identify how to define and measure human characteristics and behavior
2. Conduct and interpret basic statistical analyses using SPSS.
3. Identify the most appropriate statistical techniques to solve a problem.
4. Write statistical conclusions in [APA format](#).
5. Interpret and describe basic descriptive and inferential statistical findings in writing.
6. Work effectively and collaboratively in teams to complete assignments.



## EXPECTATIONS & MAXIMIZING YOUR LEARNING EXPERIENCE

I genuinely hope that this class will be an engaging, challenging, and rewarding intellectual experience for you. Below are some things that I will expect of you and what you can do to do well.

- Check your email and Canvas regularly.
  - Make sure you check your @udel.edu email at least once a day.
  - We will manage this course through [Canvas](#) so please log onto it regularly for announcements, assignments, and other materials.
- Make working with your teammates a priority.
  - Most of the coursework is done with your team and it helps you develop some of the [top skills that employers want!](#)
  - Decide early on how the work will be divided fairly in order to help you balance with the other responsibilities you all may have.
- Read the material on time, carefully, and thoughtfully.
  - Think about and take notes on what the material means, whether it makes sense, what it connects to, and what the steps are to solve a problem. This material is not something anyone understands by skimming just once.
  - The textbook has progress checks and a [Student Resources](#) website.
- Prepare assignments carefully and thoughtfully.
  - Allow yourself time to organize your thoughts in advance of deadlines.
  - Use your time and resources wisely. Seek help early to keep from falling behind.
- Regular attendance.
  - Due to the team-based learning format of class time, it is best if you attend every class.
  - Bring your textbook, class handouts, and notes to each class session.
  - If you do have to miss a class period, contact your teammates and me as soon as possible. If it is a more lecture-oriented session, then you can use [UD Capture](#). (Canvas > Modules > Welcome)
- Being present and engaged during class time.
  - Stay focused and mindful of your use of technology. If you're going to be here, be here!
    - *Multitasking on a laptop lowers students' grades by 10% and lowers the grades of peers that see a multitasking screen by 17% (Sana, Weston, & Cepeda, 2013).*
    - *The interruption of a ringing cell phone negatively affects note-taking efficacy and impairs test performance on the material that was interrupted (End, Worthman, Mathews, & Wetterau, 2010).*
  - Challenge yourself to participate in activities and discussions. We often become aware of our strengths and weaknesses in understanding concepts when having to speak about them.
- Visit me during office hours.
  - This material is typically difficult for students so let me be a resource to you! And we can get to know each other! When you see me one-on-one, we can work together to figure out the best strategies for you.

More details about how to use these strategies are posted on Canvas > Modules > Welcome!

**LS Scientists**

**Six Strategies for Effective Learning**

LEARNINGSIENTISTS.ORG All of these strategies have supporting evidence from cognitive psychology. For each strategy, we explain how to do it, some points to consider, and where to find more information.

**ELABORATION**  
 Explain and describe ideas with many details

**RETRIEVAL PRACTICE**  
 Practice bringing information to mind

**SPACED PRACTICE**  
 Space out your studying over time

**DUAL CODING**  
 Combine words and visuals

**INTERLEAVING**  
 Switch between ideas while you study

**CONCRETE EXAMPLES**  
 Use specific examples to understand abstract ideas

WRITING OR SKETCHING

SPACING  
 TESTING SKETCHING

MY FOLDER

ACB CBA BCA TOPICS

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## **COURSE COMMUNICATION & EMAILS**

I will post announcements, course material, and other important information on Canvas so it is important that you **check the course website and your @UDel email regularly.**

Email is the best way to reach me. Please know that responding to emails promptly is a priority for me. However, in general, **please allow 24 hours on weekdays and 48 hours on the weekends for responses to your emails.** If you do not receive a reply within these time frames, it is safe to assume that I did not receive it and feel free to send me another email.

Because of convenience, email communication is generally very common between instructors and students. Thus, it is important to recognize the importance of email etiquette:

- *Include a proper greeting.*
  - “Hi Professor Ly” is great! “Hey Mrs. Agnes” is not.
- *Let me know which class you are taking with me.*
  - I teach multiple classes so please **include the class name and section number either in the subject line or within the body of the email.** This will allow me to provide tailored responses to content specifically discussed during your section.
- *Be professional.*
  - Use complete sentences and check for errors in your email. Please do not use text-messaging abbreviations or send a series of emails as you think up questions. “When r u postin the hmwrk?” is not appropriate. When you are composing an email, ask yourself if the tone professional and respectful. Is this a message you would send to your boss at a job?
- *Tell me who you are.*
  - **Consider the email like a traditional letter** that you would write by hand and include a “signature” with your first and last name. I like to get to know my students and reply to your emails with proper greetings as well!
- *Check the syllabus before you email me a question.*
  - I try to be very thorough (as you can tell from the page count!!) when I create the syllabus and it will often answer most general questions about the course. **The syllabus is very wise.**
- *Multiple questions? Want an in-person explanation?*
  - If you have several questions, or require a very detailed answer, it may be difficult to respond in an email, so please visit office hours or schedule an appointment.

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## **I'M ON FACEBOOK & TWITTER!**

Yes, you read correctly -- I use social media! If you would like to learn more about psychology in the news, the UD Department of Psychological & Brain Sciences, and about events and opportunities going on campus and around the region, you can like my Facebook page ([www.facebook.com/Dr.AgnesLy](http://www.facebook.com/Dr.AgnesLy)) and follow me on Twitter ([@ProfessorLy](https://twitter.com/ProfessorLy)).

## GRADING

Your course grade will be based on the following criteria and I will adhere to the grading scale below. Please note that your final course grade will NOT be rounded up so the percentage you earn needs to cross the bottom threshold of each of the letter grades in the grading scale below (e.g., a 92.98% earns you an A-).

- Syllabus Check 1.0%
- Course Assessments 4.0%
- Reading Checks 5.0%
- Teamwork Exercises & Peer Evaluation 10.0%
- In-class Activities/Labs/Homework 15.0%
  
- Exam #1 (w/ revision credit) 20.0%
- Exam #2 (w/ revision credit) 20.0%
- Final Exam 25.0%

A = 93.00-100%		A- = 90.00-92.99%
B+ = 87.00-89.99%	B = 83.00-86.99%	B- = 80.00-82.99%
C+ = 77.00-79.99%	C = 73.00-76.99%	C- = 70.00-72.99%
D+ = 67.00-69.99%	D = 63.00-66.99%	D- = 60.00-62.99%
F < 60%		

### **THE FOLLOWING PAGES WILL GO INTO MORE DETAIL ABOUT EACH OF THE COURSE REQUIREMENTS.**

- **SYLLABUS CHECK**

To succeed in any class, it is important for you to become familiar with how the course works. And it's an exercise to start working together in teams. The Syllabus Check will be done in teams during the second class – one score per team. There will be no chances to make up this syllabus check.

- **COURSE ASSESSMENTS**

To adjust the course to the learning needs to each class, it is important for me to gather data and information at multiple times during the semester. Credit is earned for completion and proper submission to Canvas prior to the deadline.

- Midterm Reflection & Course Feedback
- End-of-the-Semester Course Evaluation (Complete at the end of the semester via <http://www.udel.edu/udsis-students/courseevaluations.html> -- NOT on Canvas)

- **READING CHECKS**

These reviews are designed to reinforce the understanding of the textbook readings AND to help me tailor how we spend class time. I will NOT lecture straight from the textbook readings. Class time and assigned readings are meant to complement each other. By coming prepared, we can work more effectively together. As you read, I strongly encourage you to complete the Learning Checks, SPSS in Focus, and End-of-Chapter Problems and using the [Student Resources](#) website. These reading reviews will be available on Canvas and you may use your book and/or notes.

- You have two chances to complete each reading review and you can take your time.
- The highest score is recorded and feedback is released shortly after the grace period ends.
- It is your responsibility to make sure that your responses are properly submitted by the deadline.
- There will be no chances to make-up these reading checks, but your lowest 2 reading check scores will be dropped.

- **TEAMWORK EXERCISES & PEER EVALUATION**

Learning to effectively manage and engage in teamwork is an incredibly important skill, regardless of your eventual careers. You don't have to take my word for it – see these news articles about the top qualities employers want in [Forbes](#) and [Bloomberg Businessweek](#).

**Teams will be assigned during the first class** and you will remain in these teams for the entire semester. Your grade for this portion will be earned through the following:

- 1) The first assignment will be to collaboratively create a team contract that outlines the roles and responsibilities of team members, how disagreements will be handled, rules of communication, how team member absences will be handled, and other similar issues. **This contract will be a shared Google Doc created through Canvas > Collaborations.**
  - A sample contract is posted in Canvas > Modules > Welcome. Feel free to customize it.
- 2) During the early mid-semester, you will submit a formative assessment of team functioning using the Peer Evaluation Tool in Canvas. Emails will be sent when the evaluation forms are ready.
- 3) At the end of the semester, the revised contract will serve as the framework by which team members will be formally graded by their peers. Again, I will use the Peer Evaluation Tool.

- **IN-CLASS ACTIVITIES/LABS/HOMEWORK**

This is an active learning class in which we will be working in teams almost every day. Activities will involve questions about general concepts, solving problems, using SPSS software, writing research findings in [APA format](#), and communicating about statistical concepts. **I strongly recommend that at least one team member brings the textbook to class.**

In addition, **I will assign homework on an ad-hoc basis.** Work on your homework *by yourself* ahead of time. During class time, your homework will be checked for completion and then the entire team will consult to produce one product to submit for grading. If you do not bring in a completed homework assignment (i.e., half or more of the entire assignment is blank), NO credit can be earned. You are an effective team member only if you come to class prepared! There will be no chances to make-up assignments unless you have made alternative arrangements with me *before* the deadline or you have an [official excused notice](#). **Consider these activities/labs/homework as practice exam questions.**

- **EXAMS**

The exams provide regular assessments of your mastery of course material. **Exams will focus on understanding and applying the material rather than memorization and formulas.** Each exam consists entirely of short-answer questions that will resemble the knowledge and applied questions we work on during class.

There will be a total of three exams consisting entirely of short-answer questions. **The first two exams are semi-cumulative and the final exam is cumulative.** Because of overarching concepts and the fact that the material builds on itself, there will be questions that incorporate previously learned material. For every exam, including the final exam, you may use a calculator (NOT your phone) and bring in a 3x5 index card with notes and statistical tables. It is important to note that not all of the material covered in class time will be in the textbook and we will not cover everything in the textbook during class time. However, any of the information presented in the assigned readings and class time is fair game to be included in the exams.

**MAKE-UP EXAM POLICY:**

You may make-up ONE exam during the semester (not the final, 3rd exam) for any reason (e.g., illness, overslept, wedding, family emergency). Notify me as soon as possible to arrange for a make-up exam.

If you have an unusual circumstance that may affect multiple exam dates (e.g., military duty), please contact me as soon as possible to make arrangements. In this case, you will need to provide an [official excused notice](#).

- **REVISION CREDIT**

It is important to me is that you genuinely *learn* about statistics in psychological science, and I recognize that the applied and conceptual nature of this course can be challenging. Because I want you to have a chance to reflect, ask questions, and/or have more time with the problems, you will have the opportunity to earn revision credit.

You can earn up to 25% of the points that you missed on the first two exams (NOT the final exam). These revisions are due ONE WEEK after you receive your graded exam.

**CRITERIA:**

- For each question that you answered incorrectly,
  - a. provide a thorough explanation of the correct response
  - b. identify and discuss how/why your previous response was incorrect
- Your revision is typed or neatly handwritten.
- Your paper used is neat and clean -- do NOT submit torn or ripped pages.
- Your revisions are paper-clipped to the original exam.

**If you do not meet all of the components above in your revisions, you will receive NO credit.**

**GRADING DISPUTES:**

On occasion, a student may believe that they deserve a higher grade on an assignment than they actually received or may believe that there is more than one right answer to an exam question. If you believe that a review of grades of warranted, you must state your argument in a written essay and turn in a hard copy of this argument to me (emailed arguments will NOT be accepted). Please thoroughly explain the problem you encountered and then provide a justification as to why you should receive more points, referring to page numbers in your textbook. If you have such a problem with your grade, you must submit your argument within one week of receiving the grade/score. **After one week, your grade/score cannot be argued and is permanent.**

**ACCOMMODATIONS:**

If you have a documented disability that may need certain accommodations, please contact the [Office of Disabilities Support Services \(DSS\)](#) as soon as possible. I will do what I can but certain requested accommodations (e.g., exams with extended time at the DSS Center) require registration with the DSS. The DSS office is located at 119 Alison Hall, 240 Academy Street and their phone number is 302-831-4643.

**DISCLOSURES OF INSTANCES OF SEXUAL MISCONDUCT:**

If, at any time during this course, I happen to be made aware that a student may have been the victim of sexual misconduct (including sexual harassment, sexual violence, domestic/dating violence, or stalking), I am obligated by federal law to inform the university's Title IX Coordinator. The university needs to know information about such incidents to, not only offer resources, but to ensure a safe campus environment. The Title IX Coordinator will decide if the incident should be examined further. If such a situation is disclosed to me in class, in a paper assignment, or in office hours, I promise to protect your privacy – I will not disclose the incident to anyone but the Title IX Coordinator.

For more information on Sexual Misconduct policies, where to get help, and reporting information please refer to: [www.udel.edu/sexualmisconduct](http://www.udel.edu/sexualmisconduct). At UD, we provide 24-hour crisis assistance and victim advocacy and counseling. Contact 302-831-2226, Student Health Services, to get in touch with a sexual offense support advocate.

**ACADEMIC HONESTY:**

All students at the University of Delaware are expected to be honest in their academic studies. You are presumably pursuing higher education in order to actually learn course content and demonstrate to both professors and yourself what you can do intellectually. **By committing acts such as plagiarizing the words or ideas of another, cheating on an exam or assignment, or allowing or helping another student to do these things, you are cheapening your own educational experience.**

You should familiarize yourself with the [Code of Conduct at the University of Delaware](#), which outlines the standards of student behavior, including guidelines regarding academic honesty. Because the expectation to read the [Code of Conduct](#) is explicitly written in this syllabus, pleading ignorance will not be a valid excuse. If you are caught committing an act of academic dishonesty, the incident will be reported to the Office of Student Conduct.

**COURSE SCHEDULE & READINGS**

Please note that this schedule and the above procedures may be subject to change in the event of extenuating circumstances.

**\*\* = READING CHECKS MUST BE SUBMITTED BY 7:00AM THE MORNING OF THIS CLASS MEETING**

WEEK	DATE	READ BEFORE CLASS	TOPIC	ASSIGNMENTS
		<ul style="list-style-type: none"> <li>Please fill out the Student Information Form! :)</li> <li>Start reading your textbook!</li> </ul>		
1	8/31		Course Introduction & Say Hello to Your Teams!	
	9/2	The Syllabus!	Team Syllabus Check; Introduction to Statistics	
2	9/5		~LABOR DAY HOLIDAY~	
	9/7	** Textbook Chapter 1	Introduction to Statistics	Team Contract DUE @ 11PM
	9/9	** Textbook Chapter 2	Summarizing Data with Tables & Graphs	
3	9/12		Summarizing Data with Tables & Graphs	
	9/14	** Textbook Chapter 3	Summarizing Data: Central Tendency	
	9/16		Summarizing Data: Central Tendency	
4	9/19	** Textbook Chapter 4	Summarizing Data: Variability	
	9/21		Summarizing Data: Variability	
	9/23	** Textbook Chapter 5	Probability, Normal Distributions, and z Scores	
5	9/26		Probability, Normal Distributions, and z Scores	
	9/28		Probability, Normal Distributions, and z Scores	
	9/30		<b>EXAM #1</b>	
6	10/3	** Textbook Chapter 6	Characteristics of the Sample Mean	
	10/5		Characteristics of the Sample Mean	
	10/7		Characteristics of the Sample Mean	Team Mid-Semester Evals DUE @ 11PM
7	10/10	** Textbook Chapter 7.1-7.6	Hypothesis Testing: Significance (z test)	
	10/12		Hypothesis Testing: Significance (z test)	
	10/14		Hypothesis Testing: Significance (z test)	Midterm Reflection & Course Feedback DUE @ 11PM

8	10/17	** Textbook Chapter 7.7-end of chapter	Hypothesis Testing: Effect Size	
	10/19		Hypothesis Testing: Effect Size	
	10/21		Hypothesis Testing: Effect Size	
9	10/24	** Textbook Chapter 8.1-8.5; 8.8	One Sample <i>t</i> Test	
	10/26		One Sample <i>t</i> Test	
	10/28		<b>EXAM #2</b>	
10	10/31	** Textbook Chapter 9.1-9.5; 9.8	Two Independent Samples <i>t</i> Test	
	11/2		Two Independent Samples <i>t</i> Test	
	11/4		Two Independent Samples <i>t</i> Test	
11	11/7	** Textbook Chapter 10.1-10.4; 10.7	Two Related Samples <i>t</i> Test	
	11/9		Two Related Samples <i>t</i> Test	
	11/11		Two Related Samples <i>t</i> Test	
12	11/14	** Textbook Chapter 11.1-11.5 We will not be doing calculations but do know what the symbols represent!	One-Way ANOVA (Between-Subjects)	
	11/16		One-Way ANOVA (Between-Subjects)	
	11/18		One-Way ANOVA (Between-Subjects)	
13	11/21		~THANKSGIVING HOLIDAY~	
	11/23		~THANKSGIVING HOLIDAY~	
	11/25		~THANKSGIVING HOLIDAY~	
14	11/28	** Textbook Chapter 13.1-13.5	Correlation	
	11/30		Correlation	
	12/2		Correlation	
15	12/5		Putting it All Together!	
	12/7		Putting it All Together!	
	12/9		Putting it All Together!	Final Team Evals DUE @11PM
			End-of the-Semester Course Evaluation: <a href="http://www.udel.edu/udsis-students/courseevaluations.html">http://www.udel.edu/udsis-students/courseevaluations.html</a>  <b>FINAL EXAMS WEEK: 12/12 – 12/17</b> <b>CLASS FINAL TBA</b>	

