

Psychology 301
Statistics
Spring 2016
4 Credits

Instructor Information

Name: Tara Collins, Ph.D.
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Office Location: Kinard 121
Office Phone: 803-323-2469
Office Hours: TR 2:00-3:15pm; W 2:00-4:00pm, and by appointment

Academic Intern/ Teaching Assistant Information

Name: Michael Szeman
E-mail address: szemanm3@mailbox.winthrop.edu
Office Hours and locations: Monday 10-11:00am, 135 Kinard (conference room)
Thursday 5-6:15pm, 116 Kinard (computer lab)

Class Meeting Times

Lecture: Tuesday & Thursday 12:30-1:45pm, Kinard 206
(CRN 22502; section 003) Lab: Wednesday 10:00-11:50am, Kinard 116
(CRN 23682; section 004) Lab: Wednesday 12:00-1:50pm, Kinard 116

Required Text and Materials

Gravetter, F.J., & Wallnau, L.B. (2013). *Statistics for the Behavioral Sciences* (9th Edition). Belmont, CA: Wadsworth/Thompson Learning. [ISBN: 9781111830991]

This book is also available in different formats at
<http://www.cengagebrain.com/shop/search/9781111830991>

Additionally, our course textbook has a companion website with flashcards, quizzes, and other useful resources, at:
<http://coursemate.cengage.com/CPReader/View/9781133142164/default.aspx?anon=True#home> (select the "preview" option).

Additional required materials:

- Please have a notebook for problems that we will do in class.
- Basic calculator (needs square-root function; cell phone calculators should not be used)
- Stapler!

Blackboard, Course Listserv, and Email

Blackboard (<https://bb-winthrop.blackboard.com/>) will be used for announcements as well as for other relevant materials pertaining to the course. Info about Blackboard and university email is available from Information Technology (323-2400; helpdesk@winthrop.edu).

Students are automatically added to the course email listserv. However, students who add the course late (a week before classes begin or later) may not automatically be added. It is your responsibility to make sure you are added to and receiving emails from the course listserv. Please see the following website for instructions regarding how to add/remove yourself from course listservs:
<http://www.winthrop.edu/technology/default.aspx?id=7081>

Our course designators are: PSYC301003 and PSYC301004

It is recommended that you check Blackboard and your Winthrop email account on a daily basis (if you need an ACC account go to www.winthrop.edu/acc). If you prefer to use another email account, please set up your Winthrop account to forward to messages to the account you do check.

Student Learning Outcomes

This course will address several of the Psychology Department's goals (see <http://www.winthrop.edu/cas/psychology/default.aspx?id=20116> for complete listing), specifically, by the end of the course:

Goal 2. Scientific Inquiry and Critical Thinking. Students will understand and apply basic research methods in psychology, including research design, data analysis, and interpretation. Students will respect and use critical and creative thinking, skeptical inquiry, and, when possible, the scientific approach to solve problems related to behavior and mental processes.

Goal 4. Communication Skills. Students will be able to communicate effectively in a variety of formats.

Goal 5. Professional Development. Students will demonstrate information competence and the ability to use computers and other technology (SPSS data analysis software) for many purposes.

Course Objectives

In this course, you will learn about various mathematical techniques that are commonly used by researchers to organize, summarize, and interpret the results obtained from their studies. During the course of the semester, you will learn how to perform these different statistical procedures and understand the specific purpose each procedure serves.

Additionally, by the end of this course I hope you:

- Learn to love (or at least not hate/fear) statistics.
- Learn how to use statistical techniques to answer research questions.
- Learn ways to critically interpret statistical observations reported in newspapers, journal articles, political speeches, commercials, and wherever else we find them.
- Learn ways to critically interpret conclusions drawn using statistical inference.
- Learn the logic behind various statistical tests and how to calculate them by hand.
- Gain the ability to comfortably analyze numerical data with a computer using SPSS.
- Learn ways to use statistics to communicate our own observations.

Additional Assistance

Please come see me and/or our academic intern/TA during office hours or schedule an appointment if you need additional help with the course. Also, if you would like to get a tutor for the course, please speak with me and I will help you locate one.

Academic Success Center

Winthrop's Academic Success Center is a free resource for all undergraduate students seeking to perform their best academically. The ASC offers a variety of personalized and structured resources that help students achieve academic excellence, such as tutoring, academic skill development (test taking strategies, time management counseling, and study techniques), and group/individual study spaces. The ASC is located on the first floor of Dinkins, Suite 106. Tutoring for this specific course is offered through the office. If you wish to request a tutor, you must attend ONE Tutee Seminar during the academic year, offered every Friday until midterms. Please contact the ASC at 803-323-3929 or success@winthrop.edu if you have any questions. For more information on ASC services, please visit www.winthrop.edu/success.

Lecture Notes

Partially completed lecture notes will be available on blackboard. Please print them for each chapter prior to the lecture for that chapter. The course schedule explicitly lists what chapter(s) we will be covering during each class period.

Late/Make-up policies

Make-up exams will only be permitted **if proper documentation of extreme circumstances is provided**. Please review the course schedule and take note of all exam dates and let me know as soon as possible if you foresee a conflict. If circumstances can be foreseen, you must talk to me before the exam date to discuss arrangements, please contact me regarding such conflicts ASAP and no later than one week before the scheduled exam. If you do miss an exam you must contact me within 24 hours of missing the exam, it is your responsibility to contact me to schedule a time to make-up the exam (if you have documentation for your absence). Make-up exams must be taken within **one week** of the missed exam.

Late submission of assignments

First, please know that late arrival to any class is extremely disruptive and inconsiderate of your fellow classmates and instructors. Therefore, if there are consistent issues with late arrivals to lecture and/or lab, I may revoke any and all of the policies listed below regarding the submission of late assignments and not accept late submissions.

If you arrive to class/lab late, for any reason, your grade will be penalized (please note the drop policy that is in place for university-approved misses, such as illness, see homework section below). Please know that these deductions are based on when the assignment is received (please give it to the TA if you are late), not when you walk in the door. You must have your assignments ready to submit (i.e., printed, stapled, name on it, etc.) **at the start of class**. For each minute your assignment is late, 10% (i.e., a letter grade) of the possible points will be deducted from your earned points. Please note that this means that if you submit your assignment 10 minutes or more late, you will be deducted 100% of the possible points (i.e., you will earn a zero).

Important note: In order to maintain fairness across all students, **no exceptions** will be made to any of the policies outlined in this syllabus. If you ask me for an exception, I will just refer you back to this document.

Special Needs

Winthrop University is dedicated to providing access to education. If you require specific accommodations to complete this course, contact Services for Students with Disabilities at 323-3290. Once you have your official notice of accommodations, please see me before the first class assignment.

Statistical Tables

Beginning with Chapter 6, we will be making use of a few different statistical tables. These tables can be obtained from blackboard. They can also be found at the back of your textbook.

Student Code of Conduct

As noted in the Student Conduct Code, "Responsibility for good conduct rests with students as adult individuals." Any form of academic misconduct, including cheating, plagiarism and/or attendance fraud, will not be tolerated and will result in a failing grade for the assignment and/ or the entire course as appropriate. You are expected to do your own work and give credit to others as appropriate when you include it in your own work. The policy on student academic misconduct is outlined in the "Student Conduct Code Academic Misconduct Policy" online <http://www.winthrop.edu/uploadedFiles/studentconduct/StudentHandbook.pdf>. All students are bound by the Student Conduct Code at Winthrop, which contains information about academic misconduct and may be found at <http://www2.winthrop.edu/public/policy/fullpolicy.aspx?pid=252>

Attendance

Attendance will be taken through your participation in randomly assigned in-class activities and sign-in sheets. While attendance is not a formal factor in the calculation of your grade, it will help me make decisions regarding borderline grades. For example, if you have a borderline grade (i.e., within 0.5% of the next highest grade) and you have near perfect attendance (no more than one class missed) then your grade will be rounded up to the higher grade. In addition, perfect attendance will be rewarded with an additional 3 bonus points that will be added to your homework points at the end of the semester.

It is extremely important that you attend each and every class. Regular attendance is necessary for you to fully understand the material in class. You will be best served if you complete the reading assignments before coming to class. That way lecture topics will make more sense and you'll have the opportunity to ask questions while the reading is on your mind. **If you do miss a particular lecture, it is your responsibility to read the relevant chapter(s) covered for that day. I do not share my slides/notes with students, so, if you miss please contact a classmate to get the missed notes.**

PSYC 301 Buddy #1 (name, number, email): _____

PSYC 301 Buddy #2 (name, number, email): _____

Laptops/Calculators/Cell phones /Tablets

Calculators can be used throughout the course. You will be required to bring your own calculator to all exams. A calculator with a square root function is needed. **You will not be allowed to use your cell phones or hand held PDAs/Tablets during class.**

Furthermore, please be respectful and ensure that cell phone are on silent and put away during class. Also, no matter how much you try to hide it, I can see you texting, again, please be respectful. Based on research involving the potential negative impact of laptops on student learning in the classroom, I would prefer for students to not use laptops in class, unless an assignment requires it.

However, if you feel you need to use a laptop in class please come speak with me during office hours. Please see the CAS policy found at: <http://www.winthrop.edu/uploadedFiles/artscience/PolicyForHandHeldTech-April2014.pdf> for more information regarding the appropriate use of electronics.

Grading

Final course grades will depend on the four exams (17.5% each for exams) as well as homework assignments (15% total) and lab assignments (15% total). Final letter grades will be determined as follows: A: ≥ 93.50 ; A-: 93.49- 90.0; B+: 89.99–86.50; B: 86.49–83.50; B-: 83.49–80.00; C+: 79.99–76.50; C: 76.49–73.50; C-: 73.49–70.0; D+: 69.99–66.50; D: 66.49–63.50; D-: 63.49–60.0; F: 59.99 and below.

Exams

There will be **4** exams in total including the final exam. The exams will be composed mainly of multiple choice questions and short answer questions that require calculations. **Please bring your calculator to the exam, cellphones and/or sharing calculators is not allowed.** There will be formula sheets provided for each exam (except for the first exam). The formula sheets will be available on blackboard. I will provide you with a copy of the formula sheet and any necessary tables during each exam.

Homework and Lab Assignments

There will be 17 homework assignments available on blackboard. However, **only 15 will count towards your final grade.** I recommend that you complete all 17 and have your two lowest scores dropped, but you can also only complete 15 and have all of the grades count or complete 16 out of the 17 and have your lowest grade dropped. Each homework assignment is worth 10 points, so the maximum number of points someone can earn is 150.

There will be 12 lab assignments available on blackboard. However, **only 10 will count towards your final grade.** I recommend that you complete all 12 and have your two lowest scores dropped, but you can also only complete 10 and have all of the grades count or complete 11 out of the 12 and have your lowest grade dropped. Each lab assignment is worth 10 points, so the maximum number of points someone can earn is 100.

All homework and lab assignments must be submitted at the beginning of class (see section above regarding late submissions) and no assignments will be accepted via e-mail. The drop policy was created specifically for extreme circumstances that may arise unexpectedly. **So, please use your drop(s) wisely!** Please hand write your homeworks neatly or type them. Please staple your assignment if you have more than one page, you will lose points for not stapling! All homework assignments will be **due at the beginning of class** on the dates mentioned in the course schedule, if you are late to class for any reason the assignment will be considered late. I must be strict in these policies to allow me to give students immediate feedback on their work (i.e., the correct answers on assignments). This course moves fairly quickly and most of the information builds off of the previously learned material, so completing assignments late and/or missing material will put the student in a difficult position when trying to catch up.

Work

Since this is a statistics class, when working on problems on both homework assignments and exams, please show your work. This will be especially important for the purposes of partial credit when a problem is not completely correct. When working with numbers that are not whole numbers, please round to 2 decimal places. Please round up when the number in the 3rd decimal place is 5 or greater (e.g., 0.625 will be rounded up to 0.63) and please round down when the number in the 3rd decimal place is 4 or smaller (e.g., 0.624 will be rounded down to 0.62).

Bonus Points

Bonus points are earned by solving problems on the board during class periods. Each time a student comes up to the board to solve a problem (or part of a problem); he/she earns **1** bonus point. At the end of the semester, bonus points accumulated are added to homework points.

Grade Calculation – Example

Assignment	Points Earned	Points possible	Percentage of final grade	Calculation (earned/possible) x percent	Points toward final grade
Homeworks (2 lowest grades dropped)	135	150	15%	$(135/150) \times 15$	13.5
Labs (2 lowest grades dropped)	95	100	15%	$(95/100) \times 15$	14.25
Exam 1	90	100	17.5%	$(90/100) \times 17.5$	15.75
Exam 2	90	100	17.5%	$(90/100) \times 17.5$	15.75
Exam 3	90	100	17.5%	$(90/100) \times 17.5$	15.75

Final (Exam 4)	?/	100	17.5%	(?/100) x 17.5	?
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So, based on the above example, in order to determine what one has to get on the final to get an A- (90%) in the course, you take $90.0 - (13.5 + 14.25 + 15.75 + 15.75 + 15.75) = 15$. Thus, given the above grades for the other components throughout the course, one needs to get 85.71 % ($15/17.5 \times 100\%$) on the final to maintain an A- in the course.

Important Dates

January 15th – Last day to add/drop.

March 9th – Course withdrawal deadline

Course Schedule

<u>Day</u>	<u>Date</u>	<u>Lecture Topic</u>	<u>Reading Assignment</u>	<u>Lab Topic</u>	<u>Assignment Due</u>
Tuesday	12-Jan	Introduction, Syllabus			
Wednesday	13-Jan	Lab 1		Introduction to SPSS: Entering data	
Thursday	14-Jan	Introduction to Statistics	Chapter 1		Lab1
Tuesday	19-Jan	Frequency Distributions	Chapter 2		HW1
Wednesday	20-Jan	Lab 2		Frequency distributions; Central tendency	HW 2
Thursday	21-Jan	Central Tendency	Chapter 3		Lab 2
Tuesday	26-Jan	Variability	Chapter 4		HW 3
Wednesday	27-Jan	Lab 3		Variability; Outliers	HW 4
Thursday	28-Jan	z-Scores	Chapter 5		Lab 3
Tuesday	2-Feb				HW 5
Wednesday	3-Feb	Exam 1			Study!
Thursday	4-Feb	Probability	Chapter 6		
Tuesday	9-Feb	Probability and Samples: The Distribution of Sample Means	Chapter 7		HW 6
Wednesday	10-Feb	Lab 4			HW 7
Thursday	11-Feb	Introduction to Hypothesis Testing	Chapter 8		Lab 4
Tuesday	16-Feb				
Wednesday	17-Feb	Lab 5		Probability and p-values	HW 8
Thursday	18-Feb	Introduction to the t Statistic	Chapter 9		Lab 5
Tuesday	23-Feb				HW 9
Wednesday	24-Feb	Lab 6		Single sample t-test	
Thursday	25-Feb	Exam 2			Lab 6
Tuesday	1-Mar	The t Test for Two Independent Samples	Chapter 10		
Wednesday	2-Mar	Lab 7		Independent samples t-test	HW 10
Thursday	3-Mar	The t Test for Two Related Samples	Chapter 11		Lab 7
Tuesday	8-Mar				
Wednesday	9-Mar	Lab 8		Related samples t-test	HW 11
Thursday	10-Mar	Introduction to Analysis of Variance	Chapter 12		Lab 8

<u>Day</u>	<u>Date</u>	<u>Lecture Topic</u>	<u>Reading Assignment</u>	<u>Lab Topic</u>	<u>Assignment Due</u>
Tuesday	15-Mar	Spring break			Have fun!!!
Wednesday	16-Mar	Spring break			Have fun!!!
Thursday	17-Mar	Spring break			Have fun!!!
Tuesday	22-Mar	Introduction to Analysis of Variance			
Wednesday	23-Mar	Lab 9		One-way ANOVA	HW 12
Thursday	24-Mar	Repeated-Measures ANOVA	Chapter 13		Lab 9
Tuesday	29-Mar				HW 13
Wednesday	30-Mar	Exam 3			
Thursday	31-Mar	***No class SEPA conference***			
Tuesday	5-Apr	Two-Factor ANOVA	Chapter 14		
Wednesday	6-Apr	Lab 10		Repeated-Measures ANOVA; Factorial ANOVA	HW 14
Thursday	7-Apr	Correlation	Chapter 15		Lab 10
Tuesday	12-Apr				
Wednesday	13-Apr	Lab 11		Correlation; Regression	HW 15
Thursday	14-Apr	Regression	Chapter 16		Lab 11
Tuesday	19-Apr	Chi-square	Chapter 17		HW 16
Wednesday	20-Apr	Lab 12		Chi-square	HW 17
Thursday	21-Apr				Lab 12
Thursday	28-Apr	Exam 4 (Final Exam) 11:30am			

The pace of a course is hard to predict. We may fall behind/get ahead of this schedule. If this occurs I will provide you with an updated course schedule.