COURSE SYLLABUS

PSYC 300: Statistics for Psychologists, Sections 3 and 4
Lecture: MWF, 1:00 – 1:50, D216 Science
Lab: Tuesdays, 9:00 – 10:50 or 11:00 – 12:50, D214 Science

Contact Person	**Craig A. Wendorf, Ph.D.**	**Kay Hackett**
Title	**Professor and Chair of Psychology**	**Academic Department Associate**
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Office Hours	M, 8:30-9:30; WF, 9:00-11:00 am; TF, 2:00-3:00 pm; and BY APPOINTMENT!	MTWRF, 7:45-11:45 am MTWRF, 12:30-4:30 pm

Course Objectives and Teaching Philosophy

Prerequisites

This is a basic statistics course that meets the requirements for the Psychology Major as well as several other majors on campus. This course also meets the Quantitative Literacy requirements for the General Education Program. It is expected that you have already accrued a basic understanding of the fields of mathematics and psychology. As such, it requires that you have completed PSYC 110 (Introduction to Psychology) and MATH 100 (College Algebra) or their equivalents. It is strongly recommended that you have also completed PSYC 200 (Research Methods in Psychology).

Course Description and Objectives

This course will introduce you to statistical reasoning and the application of basic statistical (descriptive and inferential) procedures. This course is intended to provide an understanding of why a particular statistic is appropriate for a given experimental design as well as the "inner workings" of each statistical test. Students completing this course will:

- ❑ Explain the logic and appropriate applications of statistical analyses for univariate or bivariate research designs, problems, or hypotheses.
- ❑ Calculate the statistics necessary to solve problems (both manually and via computer), including descriptive statistics, statistical significance tests, effect sizes, and confidence intervals.
- ❑ Communicate the meaning of statistical analyses in everyday language and professional formats (e.g., graphs, tables, and words).

For more information about how this course meets these (and other) learning outcomes:
http://www4.uwsp.edu/psych/cw/teaching/Wendorf-LearningOutcomesStatistics.pdf

My Teaching Philosophy and Strategy

My job is to facilitate your achievement of these objectives. *Thus, I am going to do what my professional training and experience suggest helps your long-term learning of important and relevant content and skills.* To that end, I emphasize timely reading of course materials, in-class participation, out-of-class activities and homework, and thorough examinations. Overall, you should not think of your professors as lecturers or information deliverers, but rather as discussants, consultants, and guides in your education.

For more details about my teaching philosophy and practices:
http://www4.uwsp.edu/psych/cw/teaching/Wendorf-TeachingPhilosophy.pdf

Course Grading

Evaluation of Performance

Evaluation of student performance will be based on exams and written homework assignments. In addition, it is mandatory to "redo" the first two exams, demonstrating competency on all items. Extensive explanations of the assignments and exams will be available on the course D2L web site. An overview of the point values for each of the course assessments is given below.

Assessments of Objectives:	**Points Earned:**
Collaborative Activities and Assessments:	
Assignment 1: Math and Methods Review	_____ / 12 points
Assignment 2: Frequency Distributions	_____ / 12 points
Assignment 3: Descriptive Statistics	_____ / 12 points
Assignment 4: Standardized Distributions	_____ / 12 points
Assignment 5: Statistical Relationships	_____ / 12 points
Assignment 6: Sampling Distributions	_____ / 12 points
Assignment 7: Interval Estimation	_____ / 12 points
Assignment 8: One Sample Statistics	_____ / 12 points
Assignment 9: Two Sample Statistics	_____ / 12 points
Assignment 10: Analysis of Variance	_____ / 12 points
Assignment 11: Pairwise Comparisons	_____ / 12 points
Assignment 12: Repeated ANOVA	_____ / 12 points
Assignment 13: Factorial ANOVA	_____ / 12 points
Individual Activities and Assessments:	
Exam 1: Descriptive Statistics	_____ / 40 points
Exam 1: Mandatory Redo	_____ / 12 points
Exam 2: Basic Inferential Processes	_____ / 40 points
Exam 2: Mandatory Redo	_____ / 12 points
Exam 3: Multiple Group Differences	_____ / 40 points
	_____ / 300 points

Grading of Assignments and Exams

The assignments may be completed by working with other students; however, all students must turn in an assignment showing their own work, and are independently responsible for understanding the concepts and calculations involved. The exams, as well as the "redo" portions of the exams, are to be done independently (without consulting with other students).

Grading of the assignments and exams follows guidelines that are very similar to those used in my other courses. *You are strongly encouraged to read the grading rubric explanation before you complete any work in this course.* Reading the guidelines will facilitate your ability to perform up to the high standards of this course.

For an extensive explanation and examples of my grading guidelines:
http://www4.uwsp.edu/psych/cw/teaching/Wendorf-GradingRubricExplanation.pdf

Late Assignments and Make-Up Exams

Each assignment will be due at the beginning of class on its due date. Students will not be permitted to work on the assignments during this class period. If you know ahead of time that you will miss a due date for an assignment, you should submit the assignment before the due date.

Similarly, each exam will start promptly at the beginning of class on the scheduled exam day. Students who arrive late to an exam will only be allowed to take it if they arrive before the first student finishes and leaves the room. After that point, requests to take exams will be declined unless they are consistent with the make-up policy below.

For all unexpected absences (e.g., illnesses, etc.), I require notice no later than the morning of the due date or exam. Only students with instructor-validated documentation for the absence will be given an extension or a make-up exam; failure to follow this policy will result in an automatic zero for the assessment in question.

Unless you are taking an exam through the Disability and Assistive Technology Center, all make-up exams will be proctored through the Department of Psychology during one of the official times. I will notify you of available times, and you will be expected to schedule during one of these times. Under most conditions, make-up exams should be completed within one week of the original exam date.

Determination of Final Course Grades

Final course grades are determined by the percentage of possible points that you earn.

Grade:	Points Earned:	% of Total:
A	278 – 300	93%-100%
A-	269 – 277	90%-92%
B+	260 – 268	87%-89%
B	248 – 259	83%-86%
B-	239 – 247	80%-82%

Grade:	Points Earned:	% of Total:
C+	230 – 238	77%-79%
C	218 – 229	73%-76%
C-	209 – 217	70%-72%
D+	200 – 208	67%-69%
D	179 – 199	60%-66%

NOTE: Scores below 60% equate to a grade of F. Also, extra credit beyond those items discussed above will NOT be available in this course.

Final grades of "Incomplete" will be given only under extreme circumstances. An Incomplete is not an option for students who feel overwhelmed by academics, work schedules, or extracurricular activities. Typically, an Incomplete must be completed within one semester otherwise an "F" will result.

Policies Related to Conduct and Accommodations

Attendance and Class Conduct

By university policy, regular attendance is required (see http://www.uwsp.edu/regrec/Pages/Attendance-Policy.aspx). Thus, I will not give points for attendance; you are simply expected to be in class, both in body and mind. If this expectation poses a problem for you this semester – for whatever reasons you may have – please consider taking the course in a semester when you can give it proper attention.

UWSP values a safe, honest, respectful, and inviting learning environment. In order to ensure that each student has the opportunity to succeed, a set of expectations has been developed for both students and professors (see https://www.uwsp.edu/stuaffairs/Documents/RightsRespons/rightsCommBillRights.pdf). *All students are expected to be familiar with and to abide by these expectations.*

Academic Misconduct

Academic misconduct (i.e., cheating) will result in an automatic zero on that exam or assignment for all people involved. I will follow up on all cases in the manner described in "UWS/UWSP Chapter 14, Student Academic Standards and Disciplinary Procedures" (see http://www.uwsp.edu/stuaffairs/Documents/RightsRespons/SRR-2010/rightsChap14.pdf).

Representation of another person's work as your own (i.e., plagiarism) will result in an immediate rejection of the work. Any student who engages in plagiarism will be given the opportunity to repeat the work and have it graded appropriately. Consistent with university policy, a written reprimand will be placed in the student's disciplinary file. "Accidental plagiarism" – naiveté about what constitutes plagiarism – will not be accepted as a legitimate excuse.

To maintain the integrity of in-class exams, the use of electronic devices (other than calculators) will not be permitted during exams without prior documented approval from the Disability Services office or other pertinent offices on campus. This includes, but is not limited to, requests to use cellular or wireless network-enabled mobile devices for foreign language translation assistance. Students who are found using these devices will be dismissed and receive a zero for their exams.

Accommodations and Disabilities

If there are factors creating difficulties for you in this course that are recognized disabilities under the Americans with Disabilities Act, please provide me with appropriate notification from the Disability and Assistive Technology Center (103 Student Services Center, 715-346-3365, or at http://www.uwsp.edu/disability/). *I will follow all recommendations made by the Disability and Assistive Technology Center.*

If you are having difficulties of a personal (not academic) nature, I will refer you to the UWSP Counseling Center (Third Floor Delzell Hall, 715-346-3553, or at counsel@uwsp.edu). *Appropriate accommodations may be made for due dates, testing procedures, etc. at the instructor's discretion.*

Extra Assistance and Tutoring

If you would like extra assistance related to course materials or have any questions related to your performance in the course, please come by my office hours or set up an appointment. This should always be your first step in getting assistance, as most questions and concerns can be best addressed this way.

However, if you would prefer help from a student beyond your colleagues in class, you can contact the UWSP Tutoring-Learning Center (http://www.uwsp.edu/tlc/, 018 LRC, 715-346-3568) or utilize the Psychology Tutoring Center (contact the Psychology Department, 715-346-2883).

Mandatory Reporting of Illegal Acts

Under several federal and state laws, and according to several university guidelines, I am required to report acts of a criminal or offensive nature that occur both within and outside of class. This includes acts of sexual harassment and assault, bias and hate crimes, illicit drug use, and acts of violence. Any disclosure or description of these incidents – both current and in the past – may be reported to the Dean of Students office (http://www.uwsp.edu/dos/) or the local authorities.

Emergency Responding

In the event of a medical emergency call 911 or use Red Emergency Phone (located outside D230 Science). Offer assistance if trained and willing to do so. Guide Emergency Responders to victim.

In the event of a tornado warning, proceed to the lowest level interior room without window exposure. See http://www.uwsp.edu/rmgt/Pages/em/procedures/other/floor-plans.aspx for floor plans showing severe weather shelters on campus. Avoid wide-span rooms and buildings.

In the event of a fire alarm, evacuate the building in a calm manner and meet on the north side of the Science Building (by the Health Enhancement Center). Notify instructor or emergency command personnel of any missing individuals.

In the event of an Active Shooter – Run/Escape, Hide, Fight. If trapped in a room, you should hide, lock doors, turn off lights, spread out, and remain quiet. Follow instructions of Emergency Responders.

See UW-Stevens Point Emergency Management Plan at http://www.uwsp.edu/rmgt for details on all emergency response procedures at UW-Stevens Point.

Course Materials

Required and Additional Readings

There one required textbook for this class and it is available at text rental. If you decide to purchase, borrow, or rent the book through another source, please be sure to get the correct edition. Note that we are using the "brief course" version.

Aron, A., Coups, E. J., & Aron, E. N. (2011). *Statistics for the behavioral and social sciences: A brief course* (5th ed.). Upper Saddle River, NJ: Prentice Hall.

At various points throughout the course, I may need to supplement the text with chapters and articles from other sources. I have chosen these materials because they provide straightforward summaries of basic undergraduate statistics in the behavioral sciences.

Posting of Course Materials

All homework assignments, exam study guides, course grades, and additional course materials will be posted online. Students should check this site regularly to get the updated courses materials. *Failure to report a problem in obtaining the course materials will be treated as a failure to complete the requirement.*

Additional course materials are available through Desire 2 Learn (D2L):
http://www.uwsp.edu/d2l/

Calculators and Computers

Calculators are highly recommended for the assignments and most in-class work; you will also be allowed to use calculators on the exams. However, do not use a calculator as a crutch. *If you do not understand the math you are asking the calculator to do, you will not understand the concept that you need to learn*.

Most of the later homework assignments will also include a significant amount of computer work involving the software package SPSS (Statistical Package for the Social Sciences). It is accessible in all computer labs on campus through the Network Menu. We will spend considerable time in class dedicated to helping you understand this program.

An online textbook for using and understanding SPSS is on my website:
http://www4.uwsp.edu/psych/cw/statistics/

Tentative Course Schedule

This section contains a tentative and integrated schedule of topics and activities for the course. If situations necessitate it, any changes in reading assignments, course schedule, or other aspects of the class will be announced in class. *You are responsible for all announcements of changes whether or not you are present in class.*

Additionally, please pay attention to the university calendar and associated policies. Specifically, I will strictly adhere to the university calendar, including drop/add dates and the final exam schedule. See http://www.uwsp.edu/regrec/Pages/calendars.aspx for more details.

DATE	Preparatory Readings	Topic for Class	Homework
Topic 0	**Overview of the Course: What is Statistics for Psychologists All About?**		
9-6	Landrum (2002)	Introduction to the Course	
		Part I: Basic Measurement and Descriptive Statistics	
Topic 1	**Frequency Distributions: How Do We Describe and Represent What We Measure?**		
9-7	Aron et al. (2011, Ch. 1)	Understanding Variables and Scores	
9-9		Understanding Research Design	
9-12		Calculating Frequencies	Assignment 1 Due
9-13		Lab on Frequency Distributions	
Topic 2	**Descriptive Statistics: How Do We Best Summarize a Distribution?**		
9-14	Aron et al. (2011, Ch. 2)	Understanding Distributions Characteristics	
9-16		Calculating Central Tendency	
9-19		Calculating Variability Indices	Assignment 2 Due
9-20		Lab on Descriptive Statistics	
Topic 3	**Standardized Scores: How Do We Use Transformations to Communicate Relative Standing?**		
9-21		Understanding Standardized Scores	
9-23		Calculating Percentiles with z Scores	
9-26		Calculating Probability with Scores	Assignment 3 Due
9-27		Lab on Standardized Distributions	
Topic 4	**Correlations: How Do We Measure the Relationship Between Variables?**		
9-28	Aron et al. (2011, Ch. 3)	Understanding Statistical Relationships	
9-30		Calculating Correlations	
10-3		Calculating Shared Variance	Assignment 4 Due
10-4		Lab on Correlations	
Topic 5	**Integration: How Can We Integrate What We Know About Measurement and Description?**		
10-5		Exam Preview	
10-7		Conceptual Integration	
10-10		Integration Problems	Assignment 5 Due
10-11		**Exam 1**	
		Part II: One and Two Sample Estimation and Inferences	
Topic 6	**Sampling Distributions: How Do We Determine the Likelihood of a Statistic?**		
10-12	Aron et al. (2011, Ch. 4)	Exam Review and Applied Probability	
10-14		Understanding Sampling Processes	
10-17		Calculating the Probability of a Statistic	Exam 1 Redo Due
10-18		Lab on Sampling Distributions	

DATE	Preparatory Readings	Topic for Class Activities	Homework
Topic 7	**Interval Estimation: How Do We Make Inferences about an Unknown Population Mean?**		
10-19	Aron et al. (2011, Ch. 6)	Understanding Interval Estimation	
10-21		No Class (Instructor Out of Town!)	
10-24		Calculating Confidence Intervals	Assignment 6 Due
10-25		Lab on Interval Estimation	
Topic 8	**One Sample Statistics: How Do We Use Probability to Make Decisions about a Mean?**		
10-26	Aron et al. (2011, Ch. 5)	Understanding Statistical Significance	
10-28	Aron et al. (2011, Ch. 8)	Calculating a One Sample *t* Test	
10-31		Calculating Supplemental Statistics	Assignment 7 Due
11-1		Lab on One Sample Statistics	
Topic 9	**Independent Samples: How Do We Determine Whether Two Groups are Different?**		
11-2	Aron et al. (2011, Ch. 9)	Understanding Independent Sample Designs	
11-4		Calculating Independent Sample Statistics	
11-7	Aron et al. (2011, Ch. 7)	Calculating Statistical Power	Assignment 8 Due
11-8		Lab on Independent Sample Statistics	
Topic 10	**Integration: How Can We Integrate What We Know About Sampling and Inferences?**		
11-9		Exam Preview	
11-11		Conceptual Integration	
11-14		Integration Problems	Assignment 9 Due
11-15		**Exam 2**	
	Part III: Multiple Sample Estimation and Inferences		
Topic 11	**One-Way Analysis of Variance: How Do We Determine Whether Multiple Groups are Different?**		
11-16	Aron et al. (2011, pp. 314-333)	Understanding Multiple Group Designs	
11-18		Calculating Sources of Variability	
11-21		Calculating an Analysis of Variance	Exam 2 Redo Due
11-22		Lab on the Multiple Group Designs	
Topic 12	**Post Hoc Comparisons: How Do We Best Make Multiple Comparisons Among Samples?**		
11-23	Aron et al. (2011, pp. 333-338)	Understanding Pairwise Comparisons	
11-25		No Class (Happy Thanksgiving!)	
11-28		Calculating Post Hoc Comparisons	Assignment 10 Due
11-29		Lab on Post Hoc Comparisons	
Topic 13	**Repeated Measures ANOVA: How Do We Test Differences in Within Subjects Designs?**		
11-30	Aron et al. (2009, Ch. W02)	Understanding Within Subjects Designs	
12-2		Calculating a Repeated Measures ANOVA	
12-5		Calculating Repeated Measures Statistics	Assignment 11 Due
12-6		Lab on Repeated Measures Designs	
Topic 14	**Factorial ANOVA: How Do We Test Differences in a Multiple Factor Design?**		
12-7	Aron et al. (2011, pp. 338-364)	Understanding Factorial Designs	
12-9		Calculating a Factorial ANOVA	
12-12		Calculating Factorial Statistics	Assignment 12 Due
12-13		Lab on the Factorial Designs	
Topic 15	**Integration: How Can We Integrate What We Know About Multi-Group Analyses?**		
12-14	Aron et al. (2011, Ch. 12)	Conceptual Integration	
12-21		**Exam 3 (Meets 8:00 – 10:00)**	Assignment 13 Due