

**PSYC 220(001): Research Design and Statistics I, Fall 2009**  
**Syllabus**

**Lecture:** Monday & Wednesday, 1:30 pm to 2:45 pm, AH 0302  
**Instructor:** Dr. Jonathan Pettibone **Email:** jpettib@siue.edu **Phone:** 650-3346  
**Office:** AH 0143  
**Office Hours:** Monday & Wednesday, 11:00 am to Noon

**T.A.:** Aaron Summers **Email:** asummer@siue.edu  
**Office:** AH 0318 **Office Hours:** Monday, 3:00 to 5:00 pm; Thursday, 11:00 am to 1:00 pm

**Rented Texts:**

Gravetter, F. J., & Wallnau, L. B. (2005). *Essentials of statistics for the behavioral sciences* (6<sup>th</sup> ed.). Pacific Grove, CA: Wadsworth-Thompson Learning.  
Cozby, P. C. (2008). *Methods in Behavioral Research* (10<sup>th</sup> ed.). McGraw Hill.  
*Publication Manual of the American Psychological Association* (5<sup>th</sup> ed.). (2001). Washington, DC: American Psychological Association.

**Recommended Equipment:** You need a calculator with at least a square and a square root function. A calculator with statistical functions would be better, such as the TI-30Xa or the TI-30 XIIS. These cost around \$10 at most stores, and will make your life much easier. These are the calculators I know- you can buy others, but I can give you the most help with these. Not having a calculator at all will make life difficult and far more painful than it needs to be. **Graphing calculators, PDAs, and phone calculators (yes, even your iPhone) may not be used** in class or on exams. I suggest that you buy the stats textbook at the end of the course so that you have a statistical reference for later courses, and that you buy the APA style manual for similar reasons. **Please bring your calculator & stats book to every class- you never know when we'll need it.**

**Course Sequence Objectives:** Over the course of two semesters, you will be introduced to basic statistical concepts and methodological research designs that are used in the behavioral sciences. A research design is a technique we use in order to systematically study human behavior. The first semester will focus on observational designs, and the second will focus on experimental designs. Statistics are the tools we use to understand the results of our designs. This will include descriptive statistics (mean, median, mode, ect.) in the first semester, along with inferential statistics that allow us to test hypotheses about people and the world around us in the second semester. Overall, this sequence of courses should prepare you for further study in the social sciences, including advanced statistics courses and independent study. More specifically, you should reach a greater understanding about how researchers develop and reach their conclusions, and learn to apply these techniques to your chosen career path.

**Course Format:** The structure of this course is designed to help you get over the fear of learning statistics, and help break up the boredom of learning methods. The best way to do this is give you as much hands on experience as possible, and to have you feel comfortable with the material. During the lecture sections, we will cover the concepts and formulas that you will need to understand the use of statistics and methods in psychology. A central part of this is the calculation of some statistics by hand. Please, ask questions when ever necessary. If you are puzzled about something, chances are someone else is too. Don't forget, your TA is here to help you as well. Feel free to bring him questions concerning both class and computer assignments. In fact, you should expect to get help from him, especially for SPSS. During lab sessions we will have hands on time designed to get you working on your project. This class has a mixture of points that are awarded by effort, and some points that are awarded by accuracy. You cannot afford to miss the points that are awarded by effort if you wish to do well in this class! Those points are there to reward you for approaching the class rather than avoiding it.

## Grading

Your final grade will be determined by adding up the points you have earned based on the table below. Dividing the number of points you have currently by the total possible points to date will let you know where you currently stand in the class. Use the chart on the right to determine your final grade. There will be no rounding for your final grade- all point totals are absolute. **Remember that your final grade is determined by your performance across the entire semester rather than the points earned on the last assignment or exam.**

<u>Assignments</u>	<u>Points</u>
Class Homework (7):	60
Computer Homework (2):	30
Exams (3):	300
Research Certification:	10
Individual Project Drafts (2):	20
Group Project Assignments(3):	30
Final Project Paper:	100
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Total:	550

**Final Grade:** Your final grade will be decided as follows. There will be no rounding of your final point total.

- A: 550 to 495 points
- B: 494 to 440 points
- C: 439 to 385 points
- D: 384 to 330 points
- F: < 330 points

**Class Homework:** Class homework will be assigned most weeks, and will be collected **at the beginning of class** on the days listed on the syllabus. There will be a total of seven homework assignments, and each assignment will be worth 10 points. If you are more than 5 min. late, the homework will be considered late. Homework turned in outside of class but on the due date will be considered late, unless specific arrangements are made with me or the TA in advance and documentation is provided. Assignments turned in following the due date will be considered late. **No late work will be accepted.** Instead, you will be allowed to drop the assignment with your lowest score. If you do all 7 assignments, the 7<sup>th</sup> assignment will count for up to 5 points of extra credit. Assignments will cover both textbooks and are provided in a separate handout. Homework will be graded based on effort and completeness, rather than on accuracy. Full credit will be awarded if you show all work and an **honest** effort has been made on all homework problems. No credit will be awarded if you have not honestly attempted at least half of the problems. You may be called upon in class or in lecture to discuss homework problems, so preparation is essential. Plus, class topics will often make perfect sense when explained in class, and absolutely no sense when you think about it tomorrow. Doing the homework on the day you cover a topic will help with this. The longer you delay after the homework, the less you will get out of the assignment.

**Computer Homework:** Although we still teach statistics using hand calculations in order to teach theory, most statistics in the behavioral sciences are done on computer. In order to expose you to this, you will also be given two homework assignments using the program SPSS to analyze data. Each assignment will be worth 15 points. These assignments will coincide with the topics covered in class, and need to be done on your own time. They are designed to be self instructing, and can be done with the help of the textbook. Most computer labs on campus have SPSS installed- **Non-availability of the labs, not owning SPSS, not owning a computer, and printer problems are not legitimate excuses for late work.** Most problems with computer assignments come from attempting them at the last minute. Give yourself enough time to deal with problems as they arise and you won't run into nearly as many computer problems. These assignments will be graded on accuracy, simply because you learn very little if you cannot make the computer give you any output. These assignments will be made available over blackboard after the first exam. Feel free to work ahead if you like.

**Exams:** Regular exams will cover material from the textbook and lectures. The first exam will have only a conceptual section composed of multiple choice and short answer questions. The second two exams will have two parts, a conceptual and a computational part. The conceptual section will be multiple choice & short answer. The computational section is pretty self explanatory- you will be demonstrating your ability to work statistics problems by hand. I will allow the use of a 3x5 card with formulas on both sides for the computational section, but not conceptual. The last exam will occur during the final exam period, and may include a small amount of material from earlier tests. Otherwise, each exam involves only the material covered since the previous exam. Review sheets will be provided one week before each exam.

**Research Certification:** Before anyone can collect human data, the federal government and SIUE requires that you be trained in the ethical treatment of human research participants. Along with the material you will receive from this course, you must pass an online certification exam prior to collecting human data. You will receive 10 points for completing this certification on time. This is an individual assignment, but no group may collect data until all members have turned in their certification. We will talk about this in class. The URL for this exam is.... <http://www.citiprogram.org/>

**Project & Drafts:** Across the course of the semester, you will work in small groups to design a survey based research study in which you will collect and analyze real data. This project is designed to give you hands on experience with the design of quantitative research studies, data collection, and data analysis. As a group, you will determine your hypothesis, design a survey to evaluate it, and collect data from human participants. As an individual you will analyze the data and write up your results in an APA format paper. To help keep you on track and to provide feedback, three drafts of the different sections of your paper will be due across the semester. Each draft that is turned in on time will be worth 10 points. You will receive full credit for a draft if you make an honest effort to fulfill the content and formatting requirements for that section. Use the feedback given in the drafts to write your final paper, which will be due on the day of the final exam. The final write-up will be worth 100 points. All writing must be your own in both the drafts and the final paper (with the exception of the draft survey). This is to ensure that each group member actually understands how to write all sections of the project. You may not share any actual written work (other than the survey) between group members.

**Group Project Assignments:** You will be assigned into groups of no more than four students on the second day of class in order to start working on your project. Across the course of the semester, there will be four group work assignments, each worth 10 points, that allow me to monitor your progress on the project. All members of the group will receive the same grade on these assignments. Group assignments turned in one class period late will receive half credit. No credit will be given if turned in later than that. At the end of the semester, you will be provided an opportunity to give feedback about the relative contribution of your group members to these assignments. Each individual will anonymously rate all other members of his/her team at the end of the course. Each person will assign a portion of the 100% workload to each member. So, for instance, in a team of 4, if each person contributed equally, each will be assigned 25%. If Pat is assigned a 25%, 25%, 20%, and 20% from the 4 members of the group, he will receive a 90% peer evaluation score. This score will then serve to amend the 30 points of group work credit that are available to you. If Pat's group earned 30 points, then to determine Pat's grade, I would multiply 30 by .9, resulting in pat receiving 27 points for those assignments. In this way, group members who do not pull their weight will receive less credit, and those who do extra work will receive more.

### Class Policies

**Attendance Policy:** As this class moves at a fast pace by necessity, missed classes will be very damaging to your success in learning the material. I consider your attendance in class to be mandatory- however, I will not take attendance. You are all adults, and I do not need to know when you miss class. If you need to miss class, go ahead, but take responsibility for your actions. If you are unhappy with your grade and come to talk to me, the first question I will ask you is "Have you missed any classes?". If you have, make sure you have done the readings and are prepared when you come for help. A missed class in the summer is equal to missing a week of a normal class- please keep this in mind when scheduling vacations and the like. I'm stuck here Tuesday through Thursday too, so lets try to make the best of it. ☺

**Late Work:** No late work will be accepted for any assignment without prior consent obtained from a phone call or face to face visit. E-mail cannot not be used for this purpose. Note that this means that an absence on a day that something is due without prior consent will result in a zero for that assignment.

**Academic Courtesy:** Be courteous during class. Be quiet when your classmates or I am speaking, and we will be quiet when you are speaking. Please do not engage in any behaviors during class that you would not want to see if you were teaching. The nature of a class like this entails that all students will be board at times and frustrated at times. Please do not let that interfere with your classmates. When you are board, others will be frustrated, so please show them the respect you would expect if you were the one who was frustrated. If you have any issues with the class, please come to my office to speak to me. I often do not know there is a problem unless you tell me.

**Academic Honesty:** Although I encourage collaboration on homework and group projects, your final product must be written alone. Please get together to work out problems and design your studies but write the answers yourself. The only assignment that you will be graded on as a group is the survey draft. All other work must be constructed from your own thoughts and words. It is never appropriate to turn in a photocopy of another students work as your own.

**Plagiarism:** Plagiarism includes either presenting someone else's words without quotation marks (even if you cite the source) or presenting someone else's ideas without citing that source. Sources may include published research articles, but they also include other students in the class. If you plagiarize, your instructor cannot evaluate your understanding of the topic. When paraphrasing from another source, at the very least the student should change the wording, sentence syntax, and order of ideas presented in the paper. Ideally, the student will integrate ideas from multiple sources while providing critical commentary on the topic in a way that clearly identifies whether words and ideas are those of the student or are from another source. University policy states that "Normally a student who plagiarizes shall receive a grade of F in the

course in which the act occurs. The offense shall also be reported to the Provost. (<http://www.siue.edu/POLICIES/1i6.html>). The University policy discusses additional academic sanctions including suspension and expulsion from the University. To insure that you understand how to avoid plagiarism, we encourage you to review the information on plagiarism provided on the Department of Psychology web page at <http://www.siue.edu/PSYCHOLOGY/plagiarism.htm>.

**Cell Phone Policy:** Cell phones are not allowed in class because of the distractions that they cause, as well as the potential for cheating. Please note that this includes “texting” as well as all other uses. Texting implies that you have something else more important to do, or somewhere else that you would rather be. This may very well be the case- this is a statistics class after all. If this is true, please leave the class to use your phone, and accept that you are responsible for any material missed. Otherwise, please turn all cell phones off at the beginning of class. Even phones on “vibrate” can disturb other students. If you must have your phone on for emergency reasons, no problem, but please notify me before class. **If your cell phone rings or vibrates during an exam you will fail it, no questions asked.**

**Laptop Policy:** Laptops may be used in class if their sole purpose is for note taking or for running SPSS during labs. If you are found to be using a laptop for any other purpose, the entire class will lose laptop privileges for the remainder of the semester. Once again, if there is somewhere else you would rather be, go to it. I would rather you enjoy that activity than be stuck in class doing both things poorly. Honestly, both this and the cell phone policy should be common sense in an academic environment, and I apologize for the need to even mention them. I know that the majority of students use both products responsibly.

**General Note:** There are exceptions to every rule, but they are far more likely to be made if you notify me in advance (a priori) rather than after the fact (post hoc).

**Departmental policy on Incomplete grades, pass-no pass option, and withdrawal:** It is the student’s responsibility to officially withdraw from a course by the dates set by the University if the student is not intending to complete the course. Students who do not withdraw and have not completed the course will receive an Unauthorized Withdrawal (UW). Only under special circumstances a faculty member may agree to give a student an Incomplete (INC) grade in order to allow the student to complete the remaining work for the course not later than the end of the following semester. An INC is never automatic but must be approved by the instructor. If an instructor agrees to give a student an INC grade, the instructor and the student will fill out a form (Memorandum of Incomplete Grade) indicating why an INC is being given. One copy of the completed form will be given to the student, one copy will be given to the instructor, and one copy will be kept by the Department of Psychology secretary. If the work is not completed by the time specified on the Memorandum of Incomplete Grade form, the grade will be changed from INC to F.

**Statement on Disabilities** SIUE offers a range of resources to support students with disabilities. At SIUE every effort has been made to eliminate barriers to learning and help you reach your educational goals. If you are a student with a disability and wish to request accommodations, please contact Disability Support Services located in the Student Success Center, Room 1270 (phone: 650-3726).

According to SIUE safety and procedures policies, students with disabilities have the option of developing a written plan for evacuation in the unlikely event of an emergency that requires evacuation. If any student with a disability would like to develop a written evacuation plan for this class, please contact the instructor

Tentative Schedule (Subject to change based on the pace of the class)

Date	Topic	Class Readings	Notes
8/24	Welcome & Syllabus		
8/26	Intro to Research Methods	Cozby: Ch. 1 & 4	
8/31	More Intro to Research Methods	Cozby: Ch. 5	
9/2	Research Ethics & Standards		9/4: Last day to wd w/ full refund
<b>9/7</b>	<b>Labor Day: No Class!</b>	Cozby: Ch. 3	
9/9	Survey Research Methods	Cozby: Ch. 7	
9/14	Survey Research Methods		
<b>9/16</b>	<b>Library Day: Using PsycInfo &amp; Reading a Research Article</b>	Cozby: Ch. 2	<b>Meet in Lovejoy Library</b> 9/18: Last day to wd w/ partial refund
9/21	Introduce Project: Hypothesis Generation & Meet your Groups		
9/23	Overview of APA style/Writing your Introduction	Cozby: App. A APA: Ch. 1	
<b>9/28</b>	<b>Exam #1: Psychological science &amp; Survey Research Methods</b>		<b>Research Project Topic Due (Group Assignment)</b>
9/30	Writing Your Methods Section & Survey Design		
10/5	Introduction to Statistics/ Math Review	GW: Ch. 1	<b>Draft of Title Page, Introduction &amp; References Due</b>
10/7	Statistics: Frequency Distributions & Central Tendency	GW: Ch. 2 & 3	
10/12	Statistics: Frequency Distributions & Central Tendency Contd.		
10/14	Statistics: Variability	GW: Ch. 4	<b>Draft of Survey Due (Group Assignment)</b>
10/19	Statistics: Variability		
10/21	Statistics: Z-scores and standard distributions	GW: Ch. 5	
10/26	<b>Working with SPSS: Data entry &amp; Descriptive Statistics</b>		<b>Final Survey Due (Group Assignment)</b>
10/28	<i>Review for Exam #2</i>		10/30: Last day to withdraw without permission of instructor <i>Start collecting data!!!!</i>
11/2	<b>Exam #2: Descriptive Statistics</b>		
11/4	Statistics: Correlation	GW: Ch. 15	<b>SPSS HW #1 Due</b>
11/9	Statistics: More Correlation		
11/11	Statistics: Using Correlation for Determining Reliability and Validity		
11/16	<b>Working with SPSS: Data entry, Correlation, reliability</b>		
11/18	<b>Writing your Results, Discussion, &amp; References sections</b>	SZZ: Ch. 12, APA: Ch. 4	<b>Survey Data Due</b>
<b>11/23 &amp; 11/25: Thanksgiving! No classes! Eat a fine turkey product of your choice!</b>			
11/30	Statistics: Probability and Sampling Error	SZZ: Ch. 6 & 7	<b>Draft of Methods, Results, Discussion &amp; Sections Due</b>
12/2	Statistics: Hypothesis Testing w/ correlation	GW: Ch. 8	<b>SPSS HW #2 Due</b>
12/7	Statistics: Hypothesis Testing w/ correlation cont.		
12/9	<i>Review for Exam 3</i>		<b>Final Paper Due</b>
<b>12/15</b>	<b>(12:00 – 1:40 PM) Exam # 3: Observational Research Methods, Correlation, &amp; Regression</b>		