

PSY 311: Research Methods in Psychology I (SPRING 2014)

Course Syllabus

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Class Days: Mon./Wed./Fri.
Time: 10:00-10:50
Location: Greene Hall 162
Course Website: <https://sakai.wfu.edu>
Lab: Wednesday 8:00-9:15(A), 11:00-12:15(B),
2:00-3:15(C) – Greene Hall 158

Required Texts/Materials

Leary, M. R. (2011). *Introduction to behavioral research methods* (6th ed). Boston, MA: Allyn and Bacon.

Gravetter, F. J., & Wallnau, L. B. (2013). *Statistics for the behavioral sciences* (9th ed.). Wadsworth.

Aplia: The Aplia package contains the Gravetter and Wallnau (2013) *Statistics for Behavioral Sciences* textbook as well as an online homework package. Students who purchase an Aplia license for PSY 311 will be able to use that license to access Aplia for PSY 312. Students who need to purchase a new Aplia license can do so from the bookstore. If you plan on enrolling in PSY 312 next semester, make sure to purchase the multi-semester license, not the one semester license. Once you have a license, to register for our course in Aplia, go to <http://login.cengagebrain.com/>. If you already have an account, sign in. Otherwise, create a new account. From your dashboard, enter our course key **82YB-N59V-935Z** in the box provided and click the register button.

Readings posted on Sakai (Resources).

Course Description

The primary objective of these two courses (PSY 311 & PSY 312) is to introduce you to the basic research methods that psychologists and other behavioral scientists use to study behavior, thought, and emotion. Understanding and conducting behavioral research requires familiarity with a number of methodological topics involving measurement, research design, and statistical analyses. In the first semester (311), you will learn about psychology as a science, the role of theories, statistical fundamentals, the basics of measurement, a variety of measurement techniques, descriptive research, correlational research, multiple regression, factor analysis, scientific writing, and ethical issues. In the second semester (312), the emphasis will shift toward experimental research, including coverage of basic experimental designs, confounding, inferential statistics (including t-tests and analysis of variance), quasi-experimental designs, and single-subject designs. By the end of the year, you should be ready to design and analyze your own research. Prerequisite: PSY 151 and permission of instructor.

Course Objectives and Learning Outcomes

The more that people know about research methods and statistics the better they are at collecting data and the more questions they can answer about their data. This course covers many of the basic statistical techniques used by social scientists for correlational studies. People who are aware of these statistical techniques are better at predicting, explaining, and understanding behavior. The general purpose of this course is to serve as an introduction to research methods and statistics in the social sciences. Beyond understanding, computing, and interpreting the basic descriptive and inferential statistics commonly used in correlational studies, learning outcomes include:

Learning Outcomes: By the end of this course, you will:

- Know and understand how major research designs address different questions and hypotheses
- Possess ability to formulate psychological problems or questions
- Possess ability to determine the degree to which an explanation is supported by reasoning and empirical evidence
- Possess ability to locate psychological research information
- Possess ability to design and conduct research
- Possess ability to use statistical techniques to analyze information

- Possess ability to evaluate statistical information and quality of research
- Possess effective written communication skills
- Possess ability to use professional (APA) writing conventions
- Understand and appreciate ethical issues in research related to research participants
- Understand and appreciate ethical issues in research related to integrity of researcher
- Recognize relevance of psychology to everyday life
- Appreciate importance of psychological science to answering fundamental questions

Course Design and Philosophy

There are many routes to knowing or understanding something. This course (and most of academic psychology) is based on the belief that the scientific research process is the most reliable route to an accurate understanding of human behavior. This course (along with PSY 312) is about learning and using the scientific process – about answering questions scientifically. Over the course of this semester and next, we will examine at least four broad issues:

1. Conceptual issues in science (e.g., causality, proof)
2. Measurement (to study something scientifically, you must measure it with some degree of accuracy)
3. Research design (evaluating the strengths, weaknesses, and implications of a study)
4. Statistics (tools for making sense out of the information that is collected in a study)

The research methods courses will help you become a more sophisticated consumer and/or producer of information. If you are primarily interested in conducting research, you must be a wise consumer and producer of research – you need to evaluate other people’s research *and* to conduct your own research. If you are primarily interested in practice of psychology (consulting, counseling, etc.), you still need to be a wise consumer of research. You must evaluate the quality of other people’s research. How effective is a new treatment or intervention that you might use? Does a particular clinical or educational test provide useful, accurate information? Can you predict who will improve, who to hire, or who will benefit from your consulting techniques? If research has been done on such questions, you must evaluate the evidence to inform your practical choices.

Science is a cumulative process, and we build on each other’s work. Your own work may often be informed by the conclusions reached by previous researchers. Do you believe their conclusions? Are the conclusions supported by their data and their analyses? Of course, you will also need to design and conduct your own research. To effectively answer the questions that interest you and to communicate your work to others, you need to be skilled in all facets of the scientific process.

We hope that the research methods courses will be valuable in at least two ways. First, the skills and knowledge that you gain from these courses will be useful in future Psychology courses. Many courses taught within the Department of Psychology refer to scientific studies of psychology, and some courses will even require that you conduct your own research. The research methods courses should prepare you for these more advanced courses. Second, we hope that the skills and knowledge that you gain from the research methods courses will enhance your ability to think critically. We hope that the logical and practical issues that we cover will help you understand and critically evaluate psychological claims and assertions in many facets of your life.

Student Responsibilities

- Attend class and be prepared to participate
- Carefully review each of the course readings before coming to class
- Complete course requirements
- Check Sakai and Aplaia regularly for updates on course matters
- Complete a student course evaluation

Course Readings

Course readings will serve as a framework for the course. Please bring to class a hard copy of the assigned readings (or your computer) so that you can reference the material. The quality of your work is likely to reflect your record of attendance and the effort that you put into reviewing the course readings.

Class Atmosphere

The learning experience in this course will involve lecture as well as sharing of thoughts during class time (focused on the required readings). I strongly encourage you to come to class willing and prepared to voice your thoughts and opinions. Please, always feel free to ask questions!

Grading

Your letter grade for this course is determined by the percentage of total points (670 possible) earned throughout the semester. A letter grade will be assigned on the basis of the following scale:

A+ 99 - 100%	A 93 - 98%	A- 90 - 92%	B+ 88 - 89%	B 83 - 87%	B- 80 - 82%	
C+ 78 - 79%	C 73 - 77%	C- 70 - 72%	D+ 68 - 69%	D 63 - 67%	D- 60 - 62%	F <60%

Points

Points are earned in 4 ways:

- **Exams (Exams 1 and 2 = 100 points each, Final Exam = 150 points; Total = 350 points; 45% of grade):** There will be two midterm exams and one cumulative final exam. Although much of class time will be devoted to highlighting the most important information from the readings and labs, as well as expanding on this material, exams may cover any of the material from lectures, course readings, and lab work. If you miss an exam you will be assigned a zero grade unless you have made arrangements with me ahead of time for an alternate exam time. There are few circumstances that would merit alternative exam times. Being ill is an acceptable reason, but having another exam the same day is not.
- **Research Reports (Report I = 120 points, Report II = 80 points; Total = 200 points; 26% of grade):** This semester, you will be learning about experimental terminology and how to conduct and interpret various kinds of statistical analyses. The Research Reports are opportunities to further develop and apply these skills and to display what you have been learning in the lab sessions. At two points during the semester, you will write a report in which you present the methods and results of an empirical study. These assignments will give you experience with scientific writing (and APA style in particular) and they will give you the opportunity to use a statistical software package (SPSS) on your own to conduct and interpret analyses. See the *MIDUS II Data folder files*, *Research Report I Instructions*, *Research Report II Instructions*, and *Scientific Writing for Psychology* documents on Sakai (Resources).
 - **Objectives:** 1) To give you experience in searching and reading the scholarly literature in psychological research; 2) To give you practice in conducting and interpreting basic statistical analyses to answer specific psychological/behavioral questions; 3) To begin learning how to write scientifically, specifically according to APA-style format; and 4) To obtain feedback on all of the above; an opportunity for learning/improvement.
 - **Requirements:** There will be two Research Reports due during the semester. They will require you to: 1) find and read relevant research articles that have been published in a scholarly, peer-reviewed psychology journals; 2) conduct analyses of real data; 3) interpret the results of those analyses and describe their psychological implications; and 4) prepare a report in APA-style format (see Chapter 16 of the Leary textbook as well as the APA-Style 6 Guide for download on Sakai).
 - **Format and Organization of the Reports:** Consistent with APA-style, each paper will include the following sections. An overview of these sections is provided in the Leary textbook: 1) Title Page; 2) Abstract; 3) Introduction; 4) Method (including a. Participants and Design, and b. Procedure); 5) Results; 6) Discussion; 7) References; and 8) Tables and/or Figures (if necessary).
 - **Length:** In APA-style, the title page, abstract, and reference section are one page each. In addition, the main body of the paper (Introduction, Method, Results, and Discussion) will require several pages of text, just to get the minimal information across. So your total paper is likely to be between 8 and 12 pages (double-spaced, Times New Roman font, 12 font size, one-inch margins, including the Title and Abstract).

- **Lab Assignments (10 points each; 13 x 10 = 130 points; 16% of grade):** Lab assignments are posted on Sakai. Lab sessions give you the opportunity to review, discuss, and use the concepts that are presented in the textbooks and in lecture. In addition, lab sessions give you hands-on experience working with some of the tools used in conducting psychological research. Attendance at lab sessions is required and it will be officially monitored by your lab instructor. Of course, sometimes there are good reasons to miss the lab. Do everything you can to keep from missing lab sessions. In the case of a missed lab, you will still be required to complete the work in a reasonable time. Always bring your computer to lab sessions. In addition, some labs will require some preparatory work, so be sure to complete the work before the lab meeting. You will be asked to turn in most of this work. Your lab grade will be based on several criteria: homework, engagement, and attendance. Lab assignments, data sets, and readings will be made available online through Sakai. Pre-lab assignments are due at the beginning of each lab section. Assignments turned in after lab will be accepted, but with a 2 point deduction for each day late. Late research reports will be deducted 10 points for each day.
- **Aplia Homework (100 points; 13% of grade):** For each Gravetter and Wallnua reading assignment, you will also find accompanying homework and practice questions on Aplia. Check Aplia each week to review and complete the assigned homework. Supplemental homework exercises will also be provided for practice (they are not required, nor will they be factored into the homework portion of your grade).

Attendance

Class attendance will not be officially monitored. However, due to the participatory and interactive nature of this course, consider your attendance mandatory. One approach that we will employ during the course is a "hands on" type of experience. If you are not present, then you will not have benefited from that particular learning experience, nor will you have contributed to the collective effort of the class. Consequently, your absence will be detrimental to your own progress in the course. Studies show that class time is the most efficient use of a student's time when it comes to learning material. Unless by reason of extenuating circumstances or participation in religious or civic observances, your attendance is expected at all times.

Sakai

You are expected to become familiar with the Sakai Academic Suite <https://sakai.wfu.edu>. Sakai is an online course environment that allows Wake Forest University faculty and students to create, integrate, and maintain web-based teaching and learning resources. Grades will be posted on Sakai. Announcements or changes will be announced on Sakai as well.

Cheating and Plagiarism

Cheating and/or plagiarism will not be tolerated. In my courses, I've had very few problems with plagiarism, and I don't expect to. When you signed your application for admission to Wake Forest University, you agreed to live by the honor system at Wake Forest. As part of the honor system, you agreed to abstain from cheating, which includes plagiarism. You are accountable to the following from the Wake Forest University Student Handbook: "Plagiarism is a type of cheating. It includes: (a) the use, by paraphrase or direct quotation, of the published or unpublished work of another person without complete acknowledgment of the source; (b) the unacknowledged use of materials prepared by another agency or person providing term papers or other academic materials; (c) the non-attributed use of any portion of a computer algorithm or data file; or (d) the use, by paraphrase or direct quotation, of on-line material without complete acknowledgment of the source."

Phones

Please make sure that your cell phone, or any other equipment that is likely to be disruptive and counterproductive to learning experience, is turned off during class time.

Students with Special Needs

Please let me know if you are a student with special needs such as visual impairment, hearing impairment, or a learning disability.

Lab Instructors

For the lab portion of this course you will have a Lab Instructor (graduate teaching assistant) helping to guide you along through the lab work. Although you will surely find your Lab Instructor to be helpful and friendly, please understand that they are professionals. Lab Instructors will be evaluating your lab work and participation in the lab. Lab Instructors will monitor your progress on a regular basis. Lab Instructors have also been instructed to deduct 2 points for each day that a lab work assignment is turned in late. Think about the lab portion as a way to practice the concepts you learn about in class and as a way to boost your grade. Also, do not be late to lab sessions. Excessive tardiness disrupts the lab sessions and you will be penalized for this in the form of point deductions.

Disclaimer

Consider this syllabus a binding contract of your responsibilities. As with most other courses, I do reserve the right to modify the schedule as deemed necessary. Any changes made to the schedule or policies within this syllabus will be announced in class and on Sakai.

Helpful Hints and Expectations

This is an intensive and demanding course. Although there have been relatively few problems, let me mention a few hints and potential problems.

Keep up with the material. Much of the material is cumulative, and getting behind can be problematic. Please attend lectures and lab sessions consistently, try the exercises at the end of assigned chapters in the texts, and please ask questions during class time

Maintain focus throughout each lab session. In some lab sessions, the internet may become an irresistible temptation for some few people. As instructors, we find it distracting and (frankly) disrespectful when we see students obviously surfing the net, writing email, etc. In addition, your classmates may find such behavior annoying.

Meeting outside of class time. If you ask questions during a lecture and don't get a fully satisfactory answer, then feel free to ask during my office hours or after class. It is often easier to get directly to the heart of your question in a one-on-one conversation than in a large group situation. The lab instructors and I are very happy to meet with you. However, we do expect you to meet us halfway. That is, your job is to attend (and be attentive in) lectures and lab sessions.

*****Class notes.** Don't waste too much time during lectures copying down notes. More than half of the class notes are detailed in your textbooks (and on Aplia). If you have read the assigned readings, you'll be able to detect when something additional has been added to the course material that isn't in the textbooks. Think of class time as a way to refine and apply what you have recently read. If you miss a lecture or lab session, then you should get notes, handouts, and any other information from a classmate, go over this material in conjunction with the textbooks, and then contact us to set up a meeting.

Course Readings and Schedule

Day	Date	Topic	Reading / Assignment / LAB
WEEK 1			LY = Leary, GW/A = Gravetter & Wallnau/Aplia
Wed	1/15	Introduction to Course	Lab 1: Introduction to Lab
Fri	1/17	Research in the Behavioral Sciences / Introduction to Statistics	LY: 1 GW/A: 1
WEEK 2			
Mon	1/20	NO CLASSES: MLK DAY	
Wed	1/22	Pseudoscience / Critical Thinking / Behavioral Variability	LY: 2 Lab 2: Creating Variables (SPSS)
Fri	1/24	Psychological Measurement / Descriptive Research	LY: 3 (pp. 49-52), 4 (pp. 80-87), 5, 6 (pp. 117-123)
WEEK 3			
Mon	1/27	Overview of Frequency Distributions and Statistical Concepts	LY: 6 (pp. 124-139) GW/A: 2 (sections 2.1-2.5)
Wed	1/29	Central Tendency	GW/A: 3 Lab 3: Univariate Descriptive Statistics for Quantitative Variables (SPSS)
Fri	1/31	Variability	GW/A: 4
WEEK 4			
Mon	2/3	z-Scores and Standardized Distributions	GW/A: 5
Wed	2/5	Probability and Samples	GW/A: 7 Lab 4: Developing Ideas & Searching the Lit.
Fri	2/7	Correlational Research	GW/A: 15 (sections 15.1-15.3)
WEEK 5			
Mon	2/10	Correlational Research	
Wed	2/12	Question and Answer: Exam 1	Lab 5: Pearson Product-Moment Correlation Coefficient (SPSS)
Fri	2/14	EXAM 1	
WEEK 6			
Mon	2/17	Exam 1 Recap	
Wed	2/19	Reliability and Validity	LY: 3 (pp. 53-70) Lab 6: Item Analysis Using the Reliability Procedure (SPSS)
Fri	2/21	Research Report I and APA-Style	LY: 16 / Sakai: Lee et al. (2008)
WEEK 7			
Mon	2/24	Significance Testing: Pearson r Correlation	GW/A: 8 (sections 8.1-8.4)
Wed	2/26	Advanced Correlational Research	Lab 7: Partial Correlations (SPSS)
Fri	2/28	Writing Workshop	Printed Copy of Rough Draft of Introduction
WEEK 8			
Mon	3/3	Linear Regression	GW/A: 16 (sections 16.1-16.2)
Wed	3/5	Linear Regression	Lab 8: Bivariate Linear Regression (SPSS)
Fri	3/7	Linear Regression	

Day	Date	Topic	Reading / Assignment / LAB
			LY = Leary, GW/A = Gravetter & Wallnau/Aplia
WEEK 9			
Mon	3/17	Multiple Regression	GW/A: 16 (sections 16.3-16.4)
Wed	3/19	Multiple Regression	Lab 9: Multiple Linear Regression (SPSS)
Fri	3/21	Multiple Regression	RESEARCH REPORT I DUE
WEEK 10			
Mon	3/24	Question and Answer: Exam 2	
Wed	3/26	EXAM 2	
Fri	3/28	Exam 2 Recap	
WEEK 11			
Mon	3/31	Hierarchical Regression	
Wed	4/2	Hierarchical Regression	Lab 10: Hierarchical Regression Analysis with SPSS
Fri	4/4	Hierarchical Regression	
WEEK 12			
Mon	4/7	Hierarchical Regression	
Wed	4/9	Factor Analysis	Lab 11: Mediation Analysis with SPSS
Fri	4/11	Chi-Square Analysis	GW/A: 17 (sections 17.1-17.2)
WEEK 13			
Mon	4/14	Chi-Square Analysis	GW/A: 17 (sections 17.3-17.4)
Wed	4/16	Chi-Square Analysis	Lab 12: One Sample Chi-Square Test
Fri	4/18	NO CLASSES: GOOD FRIDAY	
WEEK 14			
Mon	4/21	Ethical Issues	LY: 15 / Sakai: Jourard (1968) Letter from S to E
Wed	4/23	Ethical Issues	Lab 13: Two-Way Contingency Table Analysis Using Crosstabs
Fri	4/25	Empirical Research Examples	
WEEK 15			
Mon	4/28	Empirical Research Examples	
Wed	4/30	Question and Answer: Final Exam	RESEARCH REPORT II DUE
FINALS WEEK			
Wed	5/2	FINAL EXAM , Friday, May 2, 10:00am	

PSY 311: Research Methods in Psychology I – Lab (SPRING 2014)

Lab Syllabus

Section:	Days:	Time:	Lab Instructor:	E-mail:	Office:
A	W	8:00		@wfu.edu	Greene Hall
B	W	11:00		@wfu.edu	Greene Hall
C	W	2:00		@wfu.edu	Greene Hall

Office hours: By appointment
Lab Location: Greene Hall 158

Lab Website: <https://sakai.wfu.edu>

Objectives and Purpose

Research methods courses are, in many ways, “how to” courses. There are many facts, concepts, and procedures that will be covered in lectures and readings; however, there is a big difference between *memorizing* those facts, concepts, and procedures, and actually understanding *how they are used*.

The lab sections of Research Methods are intended to provide depth and hands-on experience in many of the concepts and procedures that we will be discussed in lecture and in the readings. In addition, the lab sections are an opportunity to get more personalized attention than is possible in the large lecture hall. Many students find the lab sections to be very useful as question-and-answer sessions to help in solidifying some of the procedures that are presented in lecture and readings. More specifically, over the semester, the lab sections are intended to serve the following goals (along with some specific activities):

Learn and practice basic research skills that aren't covered in lecture

- Literature searching
- Reading research articles
- Using statistical software

Clarification of basic concepts and statistical procedures

- Ask questions about lecture and readings
- Homework

Application of basic concepts and procedures (applying the ideas is a different from simply memorizing definitions or working through computations)

- Critical thinking discussions
- Design and analyze a personality questionnaire
- Go through examples of research reports – analyze and discuss

Preparation for assignments

- Time for research paper

Why Bother?

Many of these “how to” skills will be expected in your upper-level psychology classes, in which you critically evaluate original research, learn about research findings their implications, write in a scientific (APA) style, and even conduct your own class research projects. In addition, some, or perhaps many, of you will become involved in research through directed studies, independent studies, or honors projects with faculty members. For those who pursue these opportunities, many of the skills that we cover in this class will be expected of you. In planning for this semester, we've been responsive to feedback from previous students, by attempting to make lab sections more efficient and varied. One way we'll do this is by having fewer lab section meetings than in the past. In addition, we've attempted to have more variety in lab activities. Although many lab sections include some training in statistical software, we've tried to narrow down those activities and add useful alternatives. Although we can't guarantee that every student will be absolutely excited by every activity, we hope that most of you get something useful out of most labs.

Lab Grading

Your lab grade will be based on a number of criteria:

- **Attendance** (See below)
- **Homework** (Complete and turn in homework assignments)
- **Engagement** (Quantity, quality, and appropriateness – This includes attentiveness, appropriate comments & questions, vocal participation, participation in following along with activities, and generally being conscious)

As part of the lab sections, you may be asked to serve as a participant in research conducted by students in upper-level psychology research courses. Your participation would be no more than two hours over the course of the semester, and you may complete an alternative assignment in which you write abstracts of one or more research articles (speak to your lab instructor or Prof Furr about this, if necessary)

Attendance

Lab sessions give you the opportunity to review, discuss, and use the concepts that are presented in the textbook and in lecture. In addition, labs are intended to give you hands-on experience working with some of the commonly used tools to conduct psychological research (primarily SPSS).

Attendance at lab meetings is required and will be officially monitored.

Of course, sometimes there are good reasons to miss the lab. Thus, you are permitted 2 missed labs, after which your grade will be reduced for every absence by 10 points (5%) of your overall lab grade for each additional lab in which you are absent. In the event you are absent for a lab session, it is still your responsibility to submit any lab work that was collected on the day of your absence; 2 points will be deducted for each day that the work is delayed in being turned in to your lab instructor.

All of the labs will require that you bring your computer. In addition, many labs will require some preparatory work, so be sure to complete the work before the lab meeting. You will be asked to turn in much of this work.

Additional Lab Assignments, Readings, etc., will be made available online through Sakai.