

Research Methods

Psychology 303
CRN 15334 (4 credits)

**Lecture**

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Office Hours: T,R 10:30-12:00, or by appt, in 232 Lewis
Lecture: T,R 8:30-9:50am in 240C McKenzie Hall

Lab Instructors

Kristen Reinhardt (kreinha5@uoregon.edu)
Lab: Thursday, 12-1:20 in 271 Franklin
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Lab: Thursday, 2-3:20 in 271A Franklin
Office Hours: Fri. 10-12:00 in 230 Franklin

Joseph Rodini (jrodini@uoregon.edu)
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Office Hours: Th 10:30-11:30 and 1:30-2:30
in 235 Franklin

Course Description

This class is a foundation course for the scientific study of psychology. Throughout the term, you will learn how to test scientific hypotheses, design experiments, evaluate research conclusions, and conduct your own research studies. In many psychology courses, you learn *what* human behavior is or *why* it occurs, but this class is much more important, for it teaches *how* to study human behavior and arrive at those conclusions, and how to think like a psychologist. The material we will cover in this course will provide you with the ability to design research studies, conduct proper analyses to test the predictions of a study, and to critically infer what conclusions can be made based on the design and analyses of a study. In addition, this course will teach you how to evaluate the validity of others' research, which if not properly understood, can often be misleading. Science is often concerned with the pursuit of truth, and in the study of psychology, it is this course that teaches you the correct way to pursue it.

Course Pre-Requisites

In addition to WR 122 or 123, PSY 201, and PSY 202, successful completion of Psychology 302 is a pre-requisite for this course. We will review important statistical concepts as they apply to conducting, analyzing, interpreting, and reporting research results, but this should not be 'new' material to you.

Required and Recommended Books

Required Books (1):

Morling, B. (2011). *Research Methods in Psychology: Evaluating a World of Information*. New York: W.W. Norton & Company.

The textbook, *Research Methods in Psychology*, is an excellent book that is very user-friendly. We shall set a very steady pace throughout the term, often covering multiple chapters a week, so please keep up with the readings as they will make our discussions in class much more lively and informed. In addition, the publisher of the text maintains an on-line learning center for students with quizzes, flashcards, and chapter outlines. You are encouraged to use the site for supplemental material, studying, and exam preparation. The website can be found at: wwnorton.com/studyspace

Recommended books (1):

American Psychological Association. (2009). *Publication Manual of the American Psychological Association* (6th ed.). Washington, DC: Author.

The APA publication manual is available for purchase in the bookstore, and is also available to check out in many university libraries.

Blackboard

Blackboard will be used in this course as an online resource for the syllabus, powerpoint lecture slides, activity assignments, study guides, lab materials (i.e. handouts, homework assignments, online surveys), and APA formatting resources. It is recommended that you frequently check Blackboard in order to stay up to date on the course materials that are posted from week to week. Please note that while you may have access to the lecture slides ahead of time, attending both lecture and lab will be crucial to doing well in the course. The blackboard site for this course can be found at: <http://blackboard.uoregon.edu>.

Grading

In general, written work in this course will be graded based on form (i.e., proper APA formatting, spelling, grammar, sentence structure), critical thinking (i.e., how well you display knowledge of the material, how well you have analyzed and evaluated the material, and how well you effectively communicate the information), and the assignment criteria that are outlined in each assignment (i.e., completing all aspects of the work assigned based on the instructions and guidelines of the assignment). Note that **no extra credit is offered in the course**. Grades will be assigned based on your total percentage points in the course (i.e., your point total/total points possible):

GRADE	PERCENTAGE		GRADE	PERCENTAGE
A+	99-100%		C	72-77.99%
A	92-98.99%		C-	70-71.99%
A-	90-91.99%		D+	68-69.99%
B+	88-89.99%		D	62-67.99%
B	82-87.99%		D-	60-61.99%
B-	80-81.99%		F	59.9% and Below
C+	78-79.99%			

Course Points

Lecture (250 points)

Quizzes: 50 points
Activity Assignments: 20 points
Midterm Exam: 80 points
Final Exam: 100 points

Lab (150 points)

Lab Participation: 10 points
Article Summaries: 20 points
Literature Review Paper: 20 points
Correlational Study Paper: 40 points
Experimental Study Paper: 60 points

Total Points: 400

Course Components

Quizzes (50 points):

There will be 6 quizzes throughout the term worth 10 points each. However, I will drop one quiz (i.e., the one with the lowest score) such that only five will count toward your final grade. The quiz will consist of 5 multiple-choice questions (worth 2 points each) and will be based on both lecture and textbook material. Note that if you are absent, quizzes cannot be made up (though missing one quiz will not affect your grade, as that would be the quiz that is dropped). Note that after a quiz is taken, a key to the quiz (with answers in bold) will be posted on Blackboard for you to study from.

Activity Assignments (20 points):

Five times throughout the term, we will have an in-class activity assignment during lecture. Activity assignments involve in-class responses to either videos, written scenarios, in-class experiments, or group discussions centered around a specific topic that we cover in a given week in lecture. The purpose of these assignments is to give you hands-on practice in applying some of the concepts that we cover in lecture. No preparation is required, and each Activity Assignment is due at the end of class that day. Each assignment is worth 5 points, however, I will drop your lowest activity so that only four activities (20 points total) will count toward your final grade. Note that since activities are based on in-class/group activities that cannot be replicated outside the classroom, they cannot be made up. However, since one activity will be dropped, if you miss one it will not negatively affect your grade in the course.

* Quiz/Activity Assignment make-ups. If you miss more than one quiz or more than one activity, you will have the option of completing one make-up assignment. This will involve either a short write-up on the in-class experiment we will be doing early in the term, or an article summary on an approved topic. Contact the instructor if you would like additional information on the possibility of this option.

Exams (180 points):

There will be two exams throughout the term, 1 midterm and 1 final (see Course Calendar for specific dates). Each exam will cover the textbook chapters listed in the course calendar in addition to the

lecture material we covered in class. The exams will consist of multiple-choice, fill-in-the-blank, and short answer questions. The midterm exam is worth 80 points and the final exam is worth 100 points (and will be comprehensive). Study guides will be handed out one week prior to the exam date. You will not need to bring scantron forms.

Lab Work (150 points):

The lab component of the course will give you hands-on experience in conducting, analyzing, and writing up your own research studies. The majority of lab points will be based on successful completion of three APA style papers that are conducted through the term in lab. The first is a literature review paper in which you will review the past research on a topic in psychology, and make predictions about the relevant variables based on your review. The second paper will be based on a correlational study that each lab will conduct using measures of the relevant variables from the first paper. The third paper will be based on an experimental study that each lab will conduct. In addition to these three papers, points in lab will also be based on attendance and participation.

Lab papers: You will turn in three papers over the course of the term: one literature review paper, one correlational research paper, and one experimental research paper. Due dates are listed on the lab schedule below. Papers cannot be re-written. However, you will be given substantial feedback on earlier papers so that you may improve on the later ones. Grading will become increasingly strict as you get more practice with writing about research. Formatting instructions and grading criteria will be given when each paper is assigned. You are encouraged to meet with your lab instructors to go over drafts of your work during their office hours.

The Literature Review Paper (20 points): The purpose of this paper is to introduce you to the process of writing a literature review on an empirical topic within psychology. Based on the lab research topic, you will find background articles on your topic and write a literature review paper that reviews the research in the area, culminating in the proposal of a hypothesis. The literature review paper will also serve as the introduction section to the correlational study paper.

The Correlational Study Paper (40 points): The purpose of this paper is to allow you to experience research from the scientist's perspective. A correlational study examines the relationship between two or more variables. For this study, you will use the two psychological variables previously selected in the literature review paper and use valid questionnaires to measure those variables. As a lab, you will test your hypothesis by conducting a correlational analysis on the data. You will learn how to write method, results, and discussion sections, and write up a full manuscript, from title page to references (with your literature review paper serving as the introduction section).

The Experimental Study Paper (60 points): The purpose of this paper is to give you more experience as a researcher. An experimental study examines the causal effect one variable has on another variable (that is, whether changes in variable X *cause* changes in variable Y). For this study, we will choose two psychological variables (that are different from the variables in the correlational study). One will be a variable that we can manipulate (our independent variable), and the other will be one that we measure (our dependent variable). We will design a manipulation (e.g., two different types of surveys), focusing on preventing confounds and maximizing internal validity, and establish a measure of our dependent variable. As a lab, you will test your hypothesis by conducting statistical analyses (e.g., ANOVA). You will then write up an APA-style manuscript of the study (with two articles required for the literature review of the introduction section).

Lab policies: Below are the policies for registration, attendance, submission of assignments, including late policies. Please contact your lab instructor if you are unclear on any of these policies.

Registration and switching labs: Because of the limited space and resources available in Straub 180, you *must* attend the lab you are registered for. If you absolutely cannot make the time you are scheduled for, you must find someone who will switch with you.

Attendance: It is very important that you attend every lab session. Important information is covered in lab that you will need to complete your homework assignments and drafts. Moreover, a significant portion of lab time is devoted to group work. Don't let everyone else down! If you must miss a class, get in touch with your lab instructor, preferably *before* the missed class, or as soon as possible afterwards. Make arrangements to get caught up on the missed work by contacting your lab instructor and/or other students in your lab.

Submission of assignments and late policies: Consult the lab calendar to see when homework assignments and term papers are due. Assignments/papers are due at the beginning of lab; they should be typed and double-spaced, turned in as a hard copy. If you are unable to be in lab on a day that an assignment is due, you can turn in the assignment BEFORE lab to the GTF mailboxes (contact your lab instructor for more information). Material received after lab will be considered late. Late assignments will be penalized 10% for every day they are late, and assignments will not be accepted for grades after 4 days past their due date.

Course Calendar for Lab:

<u>Week</u>	Lab Topic	Assignment Handout	Items Due
1	Introduction; Searching for articles; Discussion of research topic	Article Summaries (2) Literature Review Guidelines	
2	Title page, references, citations, & literature reviews		Article Summaries (2)
3	Correlational study guidelines; Hypotheses and questionnaire activity	Correlational Study Guidelines	
4	Survey discussion; APA abstract and method sections		Literature Review Paper
5	Data analysis: descriptive and correlational analyses; APA results and discussion sections		
6	Experimental Study; Hypotheses, Design, and Measurement; Article search	Exp. Study Guidelines Article Summaries (2)	Correlational Paper
7	Hypothesis review; Data analysis: Descriptive and factorial analyses		Article Summaries (2)
8	Review of analyses; Writing exp. methods, results, & discussion sections		
9	THANKSGIVING: NO LAB		
10	Writing help day		Experimental Paper (Due by 4:00pm, Friday, 12/5)

Learning Objectives and Benchmarks

Students will learn about a variety of methods employed in psychological science research studies and about issues that arise in psychological research. Combined with training in Statistical Methods (PSY 302), students will improve their skills in becoming critical evaluators and consumers of psychological research reported in scientific literature and popular media. Being a critical consumer and ethical producer of scientific information requires understanding the extent to which particular methodologies are appropriate for examining particular hypotheses, what conclusions can and cannot be drawn on the basis of those methodologies, and what constitutes ethical research practice. Students will also learn the skills needed to become effective producers of basic psychological research. This includes, among other skills, how to locate relevant research literature, formulate hypotheses based on this literature, design ethical studies to test these hypotheses (including collection of and/or analysis of data), draw appropriate conclusions from data, and practically discuss conclusions in light of prior research. Additionally, students get practice in effective communication of research findings by writing high quality research reports. Below are the specific learning objectives and benchmarks related to the specific principles and skills that will be learned:

Principles:

- 1) Recognize, evaluate, and distinguish measured from manipulated variables and conceptual from operationalized variables.
- 2) Recognize, evaluate, and distinguish among the types of claims (i.e., arguments) typically made by scientists, including *frequency* claims (the frequency, level, or rate with which some variable occurs), *association* claims (whether one variable systematically changes as one or more other variables change), and *causal* claims (whether changes in one or more variables cause changes in another variable).
- 3) Recognize, evaluate, and distinguish among the different forms of validity used by scientists to support claims. Students will also evaluate claims on the basis of different forms of validity. This includes (among others) the “Big 4” validities: *construct* (whether a variable is measuring/manipulating what it purports to measure/manipulate), *statistical* (whether a particular statistical method supports a particular conclusion), *internal* (whether other explanations for a finding are possible), and *external* (the extent to which a finding can be generalized beyond a particular sample or study).
- 4) Recognize, evaluate, and distinguish between conceptual/statistical moderation (i.e., interaction) and conceptual/statistical mediation (i.e., explanatory mechanism).
- 5) Students will also learn a) how to conduct ethical research in psychology, and b) the importance of using multiple levels of analysis, finding convergent evidence, and replicating studies.

Skills:

- 1) Use theory and critical thinking to formulate reasonable and sound hypotheses.
- 2) Use online databases (e.g., PsychNET, Google Scholar, Pubmed) to search for research articles.
- 3) Write concise, logical, and well-organized research reports that organize background information and present hypotheses, describe methods and results, and discuss conclusions, integrating findings into a broader research base, using APA style.

Course Expectations

Academic Honesty: Group discussion outside of class is encouraged. However, all work submitted in this course must be your own and produced exclusively for this course. Copying or paraphrasing information from any source, print or electronic, without citation, is plagiarism. The use of sources must therefore be properly acknowledged and documented. The consequences of academic dishonesty will be taken seriously (e.g., an 'F' in the course and a report to the Office of Student Conduct) and are noted on student disciplinary records. If you are in doubt regarding any aspect of these issues, please come and speak with me.

Academic Responsibility: Attendance is critical to earning a good grade for the course. I do not take roll, however, it is very important that you show up to class to participate. This class will be guided by University Policies that entails a standard of responsibility, honesty, and integrity for me, your classmates, and the work that you do. This also means that you should do your absolute best to attend every class meeting, and to come to class prepared and ready to participate in our discussions. There will be topics in lecture that may not be in the textbook, and there will be exam questions based on lecture material. In addition, there will be certain things we shall do in class (demonstrations, videos, etc.) to which exam questions will apply, and therefore, good attendance is critical to doing well in the course. Finally, the quizzes will also be an indirect measure of your attendance and participation, and once again, these cannot be made up. This course has been designed to comply with the psychology department's guidelines for teaching and learning.

Tips for Success: Stay on schedule and keep in touch – Check your UO email account at least once a day. Make sure to consult the lecture and lab calendars to see when quizzes, activities, papers and exams are due. Also, make frequent use of Blackboard. Your lab's handouts, materials, and other resources will be made available.

Student Accommodations

Academic Learning Services: If you have difficulty with the course materials at any time, you are encouraged to contact the instructors so that we can provide timely assistance. In addition, the resources of the Academic Learning Services (<http://als.uoregon.edu/learningservices/index.html>) can be invaluable to students that require assistance in, for example, perfecting good study habits or honing their writing skills.

Accessible Education Center (AEC): If you have a documented disability and anticipate needing accommodations in this course, please make arrangements to meet with the instructor as soon as possible. Also, please request that a counselor at the Accessible Education Center (uoaec@uoregon.edu, tel. 541-346-1155) send a letter verifying your disability. For a list of resources provided by the Accessible Education Center, please see <http://aec.uoregon.edu>.

Students for Whom English is a Second Language: If you are a non-native English speaker and think you may have trouble in this course due to language difficulties, please see the instructor as soon as possible to make any necessary special arrangements.

"The purpose of psychology is to give us a completely different idea of the things we know best."

--Paul Valery

Course Calendar for Lecture

Week	Date	Lecture Topic	Chapter Readings	Quizzes, Activities, and Exams
1	T ~ Sept. 30	Introduction; Course Overview Psychology Is a Way of Thinking	CH. 1	Quiz 1 (take-home)
	Th ~ Oct. 2	Evaluating, Finding, and Reading Information	CH. 2	Quiz 1 due
2	T ~ Oct. 7	Interrogation Tools for Consumers of Research	CH. 3	
	Th ~ Oct. 9	Interrogation Tools for Consumers of Research	CH. 3	Activity 1
3	T ~ Oct. 14	Ethical Guidelines for Psychological Research	CH. 4	Quiz 2 (Ch. 1, 2, 3) Activity 2
	Th ~ Oct. 16	Identifying Good Measurement	CH. 5	
4	T ~ Oct. 21	Surveys, Observations, and Sampling	CH. 6	Quiz 3 (Ch. 4, 5) Activity 3
	Th ~ Oct. 23	Bivariate Correlational Research	CH. 7	
5	T ~ Oct. 28	Multivariate Correlational Research	CH. 8	
	Th ~ Oct. 30	Midterm Review		
6	T ~ Nov. 4	MIDTERM EXAM (Chapters 1-8)		Exam 1
	Th ~ Nov. 6	Introduction to Simple Experiments	CH. 9	
7	T ~ Nov. 11	Introduction to Simple Experiments	CH. 9	Activity 4
	Th ~ Nov. 13	Confounding and Obscuring Variables	CH. 10	
8	T ~ Nov. 18	Experiments with More Than One Independent Variable	CH. 11	Quiz 4 (Ch. 9, 10)
	Th ~ Nov. 20	Experiments with More Than One Independent Variable	CH. 11	Activity 5
9	T ~ Nov. 25	Quasi-Experiments and Small- <i>N</i> Designs	CH. 12	Quiz 5 (Ch. 11)
	Th ~ Nov. 27	Thanksgiving Holiday (No Class)		
10	T ~ Dec. 2	Replicability, Generalization, and the “Real World”	CH. 13	
	Th ~ Dec. 4	Final Exam Review		Quiz 6 (Ch. 12, 13)
FINALS WEEK	M ~ Dec. 8	FINAL EXAM (Chapters 9-13, Comprehensive) MONDAY, DECEMBER 8 th at 8:00AM		Final Exam

NO WORK OF ANY KIND WILL BE ACCEPTED AFTER FRIDAY, DEC. 12th OF FINALS WEEK