

## **Syllabus Winter 2017**

### **Research Methods (Psychology 303) CRN 25362, 240C MCK**

**Time:** 10:00 - 11:20

**Instructor:** Theodore Bell, Ph.D.

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Office hours: Straub 385 Tuesday 10-11:50 or by appointment

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**Course Objectives:** The text and this course have been developed around the twofold notion of becoming a wise consumer of science, and a more proficient producer of science. We will cover scientific thinking, evaluating claims, research design, research ethics, and scientific writing.

Students in Research Methods (PSY 303) learn about a variety of methods employed in psychological science research studies and about issues that arise in psychological research. Combined with their training in Statistical Methods (PSY 302), students improve their skills in becoming critical evaluators and consumers of psychological research reported in scientific literature and popular media.

Students in PSY 303 also learn the skills needed 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.

Here, we specify both the broad principles and specific skills students will learn.

**PRINCIPLES:** 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 learn how to:

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.

**SPECIFIC SKILLS:** Students will also learn how to:

4. Use theory and critical thinking to formulate reasonable and sound hypotheses.
5. Use online databases (e.g., PsychNET, Pubmed) to search for research articles.
6. 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.

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**Prerequisites:** Writing 122 or 123, Psychology 302.

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## Grading & Evaluation

**Lecture: 350 pts**  
9 in-class activities (Handouts/I clicker) (drop 2): 50 pts.  
3 exams (100 pts each)\* : 300pts  
\*Optional cumulative final can replace lowest exam

**Lab: 230 pts**  
Lab Attendance (10 wks) :18 pts ( drop 1)  
Article Summaries 1 :16 pts  
Literature review paper :30 pts  
Correlational paper :60 pts  
Article Summaries 2 :16 pts  
Experimental paper :90pts

**Total points: 580**

### Grading scheme:

In general, written work in this course will be graded based on form (i.e., proper APA formatting, spelling, grammar, sentence structure, length), 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).

The final grade assigned for the course should reflect the student's overall performance in the course, as described by the following guidelines: A *excellent* work, complete mastery of course material B *good* work, grasps most of the important concepts

C *average* work, grasps many but not all aspects of course material D *poor* work, insufficient understanding of material F failing

Grades will be assigned based on your total percentage points in the course:

GRADE	PERCENTAGE	GRADE	PERCENTAGE
A+	99-100%	C	72-77%
A	92-98%	C-	70-71%
A-	90-91%	D+	68-69%
B+	88-89%	D	62-67%
B	82-87%	D-	60-61%
B-	80-81%	F	59% and Below
C+	78-79%		

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## Reading & Materials

**Required Textbook:** Morling, B. (2012). *Research Methods in Psychology: Evaluating a World of Information*. (2nd Ed.) New York: Norton & Company.

Link to supplemental material and online learning center from publisher: <http://wwnorton.com/college/psych/research-methods-in-psychology/>

• iClickers: Please register your iClicker on the Canvas site, and bring your iClicker with you to every class. To register your iClicker in Canvas:

i>clicker —> i>clicker Registration

Also see: [https://canvas.uoregon.edu/courses/26168/pages/enabling-browser-cookies-and-registering-i%3Eclickers?module\\_item\\_id=108448](https://canvas.uoregon.edu/courses/26168/pages/enabling-browser-cookies-and-registering-i%3Eclickers?module_item_id=108448)

### Recommended books:

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

Strunk, W., Jr., & White, E. B. (2000). *The elements of style* (4th ed.). New York: Longman.

**Additional Readings:** occasional readings to be distributed in class and/or on Canvas

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## Structure of the Course

**Lecture:** One of the main goals of the lecture sessions is to develop your skills as a consumer of psychology research. Lectures will also provide you with tools to be a skilled producer of research, a skillset that you will build upon concretely in the lab component of the course. The lecture sessions will include review and explanation of selected textbook material, active learning that will teach you how to critically evaluate others' research and produce high quality original research, elaboration of some topics with information not provided in the textbook, and in-class exercises. You are expected to take responsibility for what is covered in class. The most important way to do this is to show up and be an active participant in lecture. I will use a

combination of PowerPoint presentations, writing on the white board, discussion, illustrative examples, and in-class exercises to teach the main concepts. Whenever appropriate lectures slides and outlines will be posted on Blackboard. Note that these documents serve to outline the lecture and are by no means comprehensive. *You should not rely on these posted documents for your course notes; rather, you should use them to organize the notes that you take during class.*

**In-Class Activity Assignments:** 9 times throughout the term, a graded in-class activity, or i-clicker quiz will be assigned for you to complete. No preparation is required, and each activity assignment is due at the end of class that day. Activity assignments cannot be made up. Seven of these activity assignments will count toward your final grade. This means you may miss two activity assignments without penalty.

**Exams:** There will be three mandatory exams throughout the term as well as an optional cumulative final exam during finals week (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. All exams will consist of 40 multiple-choice questions (2 points each) and a few short answer/essay questions (20 points total). If you take the optional comprehensive final exam, your lowest grade of all four exams will be dropped. There will be no makeup exams in case of illness or travel. If you are sick or out of town and miss one of the exams, you must take the final exam to make up for the missed exam. If you traveling on a university- sanctioned trip (e.g., for athletics), documentation will be required for alternative arrangements.

**Lab Work:** The lab component of the course will focus on skills required to produce original research in psychology. It will give you hands-on experience designing, conducting, analyzing, and writing up your own research studies. The majority of lab points will be based on successful completion of three papers. The first is a literature review in which you will review the past research on a topic in psychology and make predictions about the relevant variables. 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 results will be analyzed and written up in an APA style paper. The third paper will be based on an experiment. Again, the results of the experimental data will be analyzed and written up in an APA style paper. In addition to these three papers, points in lab will also be based on attendance and homework assignments. Please see the lab syllabus for further details.

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**Teaching Philosophy:** A teacher is part coach, part actor, part bandit (lifting from anywhere that will help), and part student (still always learning). A student is open to new ideas, diligent in effort to master new things, eager to surpass him/herself, is an active partner in the process, and part cowboy (always willing to get back up on the horse that bucked him or her off).

**Classroom interactions:** We are all adults, and I would like to emphasize that all communications should be respectful of the participants. It is extremely important to me that we maintain a respectful environment while promoting a diversity of opinions and ideas. Participants should feel free to offer up their ideas, and should expect that those ideas be the focus of any critical analysis rather than the person discussing them. In other words, ideas are fair game for criticism, but personalizing attacks will not be tolerated. We reject bigotry, discrimination, violence, or intimidation of any kind. Also, if you find yourself distracted by, or

become a distraction with your cell-phone, please put it in airplane mode. Likewise for your laptops.

### **Academic Dishonesty Policies**

Plagiarism will result in a zero on any assignment. Your lab instructors will discuss plagiarism and how to avoid it in your writing.

Cheating on any exam, or assignment will result in a failing grade in class.

All academic misconduct and suspected misconduct will be reported to the Office of Student Conduct, this is mandatory and not at the discretion of the instructor

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### **Student Accommodations**

**Students with Disabilities:** If you have a documented disability and anticipate needing accommodations in this course, please make arrangements to meet with me. Also, please request that the Accessible Education Center (164 Oregon Hall, <http://aec.uoregon.edu/contact.html>) send me a letter verifying your disability. The phone number for AEC is 346-1155 and the email address is uoaec@uoregon.edu

**Students for Whom English is Not Their Native Language:** Foreign language dictionaries are permitted during exams. If you find that you do need additional time to complete the first exam, please let me know, and we will make arrangements ahead of time for all future exams.

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### **Course Calendar: Subject to minor change**

	<b>Week/Date</b>	<b>Topic</b>	<b>Readings</b>
<b>1</b>	<b>Mon: Jan 9</b> <b>Wed: Jan 11</b>	Introduction/Overview Theories & Hypotheses, 3 Claims 4 validities framework	Ch. 1 Ch. 2, 3
<b>2</b>	<b>Mon: Jan 16</b> <b>Wed: Jan 18</b>	<b>MLK</b> holiday Good Measurement	Ch. 5
<b>3</b>	<b>Mon: Jan 23</b> <b>Wed: Jan 25</b>	Measurement Continued <b>Exam 1</b>	Ch. 5
<b>4</b>	<b>Mon: Jan 30</b> <b>Wed: Feb 1</b>	Ethical Research Surveys and Observations	Ch. 4 Ch. 6 App. A (opt)
<b>5</b>	<b>Mon: Feb 6</b> <b>Wed: Feb 8</b>	Sampling/External Validity, Correlation Multivariate Correlation	Ch. 7 App. B (opt) Ch. 8

<b>6</b>	<b>Mon: Feb 13</b> <b>Wed: Feb 15</b>	Evaluating Association Claims <b>Exam 2</b>	Ch. 8
<b>7</b>	<b>Mon: Feb 20</b> <b>Wed: Feb 22</b>	Experiments; Threats to Internal Validity Experimental Design	Ch. 9 Ch. 10
<b>8</b>	<b>Mon: Feb 27</b> <b>Wed: Mar 1</b>	Complex Experimental Designs Complex Experimental Designs	Ch. 11 Ch. 12
<b>9</b>	<b>Mon: Mar 6</b> <b>Wed: Mar 8</b>	Quasi-Experimental Designs/Generalizing results	Ch. 13
<b>10</b>	<b>Mon: Mar 13</b> <b>Wed: Mar 15</b>	<b>Exam 3</b> Review for Final Exam.	
<b>Finals</b>	<b>Friday: Mar 24</b>	<b>Final exam 10:15 Friday</b> <b>March 24</b>	