

## Syllabus for Research Methods (Psychology 303)

Spring 2016, University of Oregon

Lecture: Mon Wed 2-3:20 PM 245 Straub

Labs: Wed 4-5:20 PM 6/8 Straub

Thurs 8:30-9:50 AM, 10-11:20 AM 12-1:20 PM 6/8 Straub



### Professor:

Pranjal Mehta, Ph.D.

mehta@uoregon.edu

Office: 323 Straub

Office Hours: Mon 10-11 AM, 1-1:30 PM; Wed 1-1:30 PM;

or by (virtual) appt.

### Lab Instructors:

- Grace Binion, ghicks7@uoregon.edu, Office Hours: Mon 10-11:30 AM 365 Straub
- Ariel Carter-Rodriguez, acarterr@uoregon.edu, Office Hours: Tues 1-3 PM 365 Straub
- Robin Hertz, rhertz@uoregon.edu, Office Hours: Mon 1-3 PM 339 Straub
- Smrithi Prasad, smrithi@uoregon.edu, Office Hours: Tues 10 AM-12 PM 461 Straub
- Kristen Reinhardt, kreinha5@uoregon.edu, Office Hours: Thurs 7:30-9:30 AM 364 Straub

### Course Overview

*"Somewhere, something incredible is waiting to be known."* -Dr. Carl Sagan, astronomer, 1934-1996

Psychology is the scientific study of thoughts, feelings, and behaviors. In this course, you will learn the critical skills to evaluate others' research and conduct your own scientific research in psychology. In other psychology courses you may learn *what* different behaviors are or *why* they occur. This course is much more important because you will learn *how* to conduct research about behavior and arrive at those conclusions, and how to think like a psychologist. This course is essential for becoming a wise *consumer* of information from sources such as the media, the government, and corporations. This course is also essential for becoming a wise *producer* of research in psychology. However, all of the material covered in this course applies beyond psychology and the university setting, so the course will improve your ability to think critically and logically about any topic that you may encounter in other courses, in job settings, and in your daily life.

### Course Pre-Requisites

In addition to WR 122 or 123, successful completion of Psychology 302 (Statistics) is an absolute pre-requisite for this course. We assume you have a working knowledge of basic statistics. 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.

### Course Objectives

This course aims to help students improve their skills in scientific thinking from two different perspectives:

1. **Consumer of Research:** Although only a few of you may pursue a career as a research psychologist, all of you are consumers of research from psychology and other scientific disciplines. As such, a major goal of this course is to develop your capacity for critically evaluating "scientific evidence" that is communicated in academic journals, the popular press, and other outlets such as reports from government agencies, non-profit organizations, and corporations.
2. **Producer of Research:** Another major goal of this course is to sharpen your ability to produce original research in psychology. These include skills in designing and conducting research studies, collecting and analyzing data, drawing appropriate conclusions based on statistical results, and writing up scientific reports. Even if you do not plan to go on further in psychology or another related field of research, many of you will enter fields where your skills as a researcher will be a huge asset, and you may very well find yourself drawing on the material from this course to produce or evaluate original research as part of your job. Moreover, the skills you learn in this course in the producer role will without a doubt improve your skills as a consumer of research as well.

By taking the perspectives of both the consumer and the producer, you will learn all of the essential skills for evaluating and conducting original scientific research in psychology. Although you will be gaining skills useful for both perspectives throughout the course, we will focus on the consumer role in lecture and the producer role in lab.

### Course Points

#### **Lecture: 348 points**

5 In-Class Activity Assignments (7 points each, but one will be dropped): 28 points

Out-of-Class Activities (a few short exercises to complete outside of class): 20 points

3 Exams (100 points each): 300 points\*

\*Optional comprehensive final exam can replace the lowest exam grade

#### **Lab: 232 points**

Lab Homework: 52 points

Literature Review Paper: 30 points

Correlational Paper: 60 points

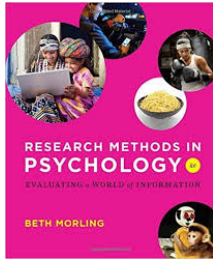
Experimental Paper: 90 points

#### **Total Points: 580**

See Course Components section below as well as the lab syllabus for details.

## Readings

### Required Textbook:



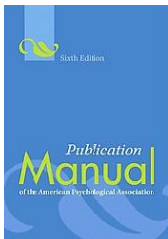
Morling, B. (2014). *Research Methods in Psychology: Evaluating a World of Information*. (2<sup>nd</sup> ed.) New York: Norton & Company.

This textbook is truly excellent! It is fun, interesting, and informative. It offers many wonderful examples, and it teaches you to think about research methods from both the consumer and producer perspectives. We shall refer to it often in class, and the readings will make a thorough supplement to what we discuss in both lecture and lab. There will be material on exams that will be in the textbook but will not be discussed in lecture, so it is important that you do all of the readings. 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 a website to access digital products that accompany the textbook:

<https://digital.wwnorton.com/researchpsych2>

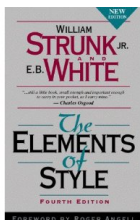
NOTE: I do not recommend the 1<sup>st</sup> edition of the textbook because there are substantive changes from the 1<sup>st</sup> to 2<sup>nd</sup> editions. The 1<sup>st</sup> edition may cause confusion, and you may have trouble with some assignments and exam questions.

### Recommended books:



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

This book is recommended for psychology majors, especially those who plan to go on to graduate school. Make sure to get the second printing of the 6<sup>th</sup> edition.



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

This book is a standard reference book for writers. It will be very useful to you as you write your papers for this course. It will also be useful for future coursework and even writing projects after you graduate.

**Additional Readings:** Some additional readings (some required, some recommended) will be distributed in class and/or on Canvas.

### Course Components

**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 Canvas. 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:** Five times throughout the term, a graded in-class activity will be assigned for you to complete. No preparation is required, and each activity assignment is due at the end of class that day and will be worth 7 points each. **Activity assignments cannot be made up.** Four of these activity assignments will count toward your final grade. This means you may miss one activity assignment without penalty.

**Out-of-Class Exercises:** You will be asked to complete a few out-of-class exercises at various periods throughout the term. These exercises will be relatively short (e.g., an online questionnaire). You will be notified via Canvas about these exercises. Announcements will also be made in class.

**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 are 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.

### Grading

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%		

### Course Philosophy and Expectations

**Attendance and Participation:** Attendance and participation are critical to earning a good grade for the course. I do not take attendance, but 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. We will follow the textbook closely, but most students find it very helpful to engage with the material in lecture. There will be some topics in lecture that are emphasized less in the textbook, and there will be exam questions based on lecture material and activity assignments.

**Active Learning and Work Outside of Class:** Doing well in this class requires an active involvement with the course content; merely reading the material and showing up for class are not enough. It is important to think about what you are reading, watching, and discussing, and relate it to experiences in your own life, rather than just remembering facts. As a 4-credit class, you are expected to spend **12 hours per week outside of class** working on relevant material.

**Canvas:** Canvas will be used in this course as an online resource for the syllabus, lecture materials, lab materials, handouts, assignments, and APA formatting resources. Please note that while you may have access to the lecture and lab materials, attending both lecture and lab will be crucial to doing well in the course. The materials alone will not teach you the core concepts required for this course. The Canvas site for this course can be found at:  
<http://canvas.uoregon.edu>.

**Preparation:** It is also expected that you will come prepared to class. This means keeping up with the readings, as well as having spent some time reflecting on them. You will not do well on exams and in-class activities if you do not keep up with the reading. We also require that you check your UO email and the Canvas website often (a minimum of once a day during the week), as we will post important class information. This course has been designed to comply with the psychology department's guidelines for teaching and learning. Please review these guidelines at <http://psychology.uoregon.edu/undergraduate/academics/>

**Organization and communication:** Your success in this course will rely in large part on your ability to stay organized and on top of due dates. Check the syllabus often for important due dates. You will receive numerous handouts that you will have to keep track of, so create a system to organize lab and lecture materials. You should expect to be in frequent communication with your class and lab instructors, as well as with your classmates. If you are not already in the habit of checking e-mail every day, start now.

**Academic Honesty:** Group activities will be a big part of lab, and discussion outside of class is encouraged. However, all written work submitted in this course must be your own and produced exclusively for this course. Although some aspects of the research projects require group work (in-lab exercises, design, data collection, and analysis), **group collaboration on worksheets and research papers is absolutely prohibited—the work you turn in on homework and papers must be solely your own.** Otherwise, you will not adequately learn the material. We take academic integrity seriously and will not tolerate any instance of cheating or plagiarism.

Cheating is defined as providing information to, or receiving information from, another person on an exam or other assignment. Plagiarism is defined as passing off the work of another as your own without properly giving credit. This includes, but is not limited to, directly copying others' writing (in whole or in part) or paraphrasing others' writing or ideas without citing properly. In these cases "others" can include other students in the class, other students or non-students not in the class, and authors of scholarly or mass media work (journal articles, chapters, newspaper articles, blogs, Wikipedia). Rely mostly on your own ideas and words, and support them with properly cited scholarly sources (journal articles, textbooks, book chapters) or popular press media (websites, newspapers). If you are unsure about what is appropriate or allowed, please ask! The UO library website has a helpful page that describes when you need to give credit:

<http://researchguides.uoregon.edu/citing-plagiarism>

All instances of cheating and plagiarism will have serious consequences. At a minimum, you will receive a zero on the assignment and be reported to the university's student conduct coordinator, even if it is your first offense. If the offense is serious, you may also receive an "F" in the course. Repeat offenders will fail the course. Turning in work that is not your own—unless it is specifically described as a group activity—is not acceptable. 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 and are noted on student disciplinary records. If you are in doubt regarding any aspect of these issues, please come and speak with me.

### 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/>) send me a letter verifying your disability. The phone number for AEC is 541-346-1155 and the email address is [uoaec@uoregon.edu](mailto: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.

**Tentative Course Calendar for Lecture (subject to minor changes)**

<b>Week</b>	<b>Date</b>	<b>Lecture Topic</b>	<b>Chapter Readings</b>
<b>1</b>	<b>M ~ March 28</b> <b>W ~ March 30</b>	Introduction; Course Overview Theories and Hypotheses	<b>CH. 1</b> <b>CH. 2</b>
<b>2</b>	<b>M ~ April 4</b> <b>W ~ April 6</b>	Three Claims, Four Validities Framework Good Measurement: (Construct) Validity and Reliability	<b>CH. 3</b> <b>CH. 5</b>
<b>3</b>	<b>M ~ April 11</b> <b>W ~ April 13</b>	Good Measurement (continued) <b>EXAM 1</b>	
<b>4</b>	<b>M ~ April 18</b> <b>W ~ April 20</b>	Ethical Research Surveys and Observations	<b>CH. 4</b> <b>CH. 6</b>
<b>5</b>	<b>M ~ April 25</b> <b>W ~ April 27</b>	Sampling/External Validity; Correlation Correlation (con't); Evaluating Association Claims	<b>CH. 7</b> <b>CH. 8</b> <b>Descriptive and Inferential Statistics Review (optional)</b>
<b>6</b>	<b>M ~ May 2</b> <b>W ~ May 4</b>	Multivariate Correlation <b>EXAM 2</b>	<b>CH. 9</b>
<b>7</b>	<b>M ~ May 9</b> <b>W ~ May 11</b>	Experiments; Threats to Internal Validity Experimental Design	<b>CH. 10</b> <b>CH. 11</b>
<b>8</b>	<b>M ~ May 16</b> <b>W ~ May 18</b>	Complex Experimental Designs Quasi-Experimental Designs	<b>CH. 12</b> <b>CH. 13</b>
<b>9</b>	<b>M ~ May 23</b> <b>W ~ May 25</b>	Generalizing Results <b>EXAM 3</b>	<b>CH. 14</b>
<b>10</b>	<b>M ~ May 30</b> <b>W ~ June 1</b>	Memorial Day Holiday - No Class Review for Final Exam	
<b>FINALS WEEK</b>		<b>FINAL EXAM (Optional),</b> <b>Thursday, June 9th at 2:45 PM in 245 Straub</b>	

**NO WORK OF ANY KIND WILL BE ACCEPTED AFTER Friday, JUNE 10th OF FINALS WEEK**



**Overview of Primary Course Points from Lecture and Lab**  
(see above and the lab syllabus for more details on grading)

<b>Week</b>	<b>Lecture</b>	<b>Lab</b>
<b>1</b>		
<b>2</b>		<b>Article Summaries</b> (due by beginning of lab)
<b>3</b>	<b>EXAM 1</b> (Wed)	
<b>4</b>		<b>Literature Review Paper</b> (due by beginning of lab)
<b>5</b>		
<b>6</b>	<b>EXAM 2</b> (Wed)	
<b>7</b>		<b>Correlational Paper</b> (due by beginning of lab)
<b>8</b>		<b>Article Summaries</b> (due by beginning of lab)
<b>9</b>	<b>EXAM 3</b> (Wed)	
<b>10</b>		<b>Experimental Paper</b> (no lab; due Friday)
<b>Finals Week</b>	<b>Optional Final Exam</b> (Thurs)	