

Syllabus for Psychology 207-010: Research Methods

Fall 2016

University of Delaware

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Class meets MWF 9:05-9:55 in McKinly 061

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Office hours: Please check Canvas course landing page for office hours for Dr. Morling and Yue Ji.

Course Overview:

Research Methods is a critical thinking skills class. The main goal is to build your skills as consumer of research—both in psychology and in the real-world. You will learn how to systematically evaluate the validity of different claims that you might encounter in a future psychology textbook, in a psychology research article, in the media, or in casual conversation.

All assignments and in-class exercises are designed to maximize your achievement of the **following learning objectives**. By engaging fully in class activities, by the end of the semester you will be able to:

- Identify research claims in both popular and scientific sources and classify them as Frequency, Association, or Causal claims.
- Use a framework of “Four Big Validities” (construct, internal, external, and statistical) to ask systematic questions about the evidence behind different claims.
- Evaluate whether researchers have measured their variables reliably and with validity.
- Discriminate between experimental, quasi-experimental, and correlational studies, and explain which claims (Association or Causal) each kind of study can support.
- Explain how researchers can improve the ability of correlational studies to support causal claims
- Explain when and why an experiment can support a causal claim.
- Interpret experiments that study how different factors interact to cause behavior.
- Describe when we can generalize from the results of a study, and explain when generalization is not a priority.
- Describe the basic ethical guidelines that apply to research in psychology.
- Use two important tools important to the discipline of psychology: the PsycINFO literature search engine, and APA style for writing and citing research papers.

Required Materials:

iClicker. You need to register your [iClicker](#) on Canvas in time for a quiz by second day of class.

Morling, B. (2015). *Research methods in psychology: Evaluating a world of information (2nd Edition)*. New York: W.W. Norton.

Assorted other readings and assignments will be distributed via Canvas. I donate my royalties from local sales of the book to the UD Department of Psychological and Brain Sciences, a fund that helps support student research.

Class format and assessments:

We will be managing this class in Canvas (www.udel.edu/canvas). This syllabus, lecture slides, homework, and all the assignment details will be posted there. You can also take self-graded, online quizzes that come with the textbook.

There will **four exams** in the class. On each exam, there will be conceptual and applied multiple-choice knowledge questions from the textbook and one or two applied, problem-solving questions similar to the problems we work on during class. The final is cumulative and held during finals week. The top two of the first three exams count for your grade (you can drop your lowest score). You can't drop the final exam.

This is an active learning class in which we will be doing examples, exercises, and problems in **small groups** almost every day. Attendance isn't required. But if you miss class regularly, you probably will not achieve this course's learning objectives, and you will not learn what you need to progress in the major. You will be assigned to a study group of four or five students. Your group will sit together during class so that you can work together on in-class activities. Your group will also coordinate resources on your final project.

For the most part, I will not be lecturing in class on material that is also in the textbook. Instead, you will be required to study the textbook ahead of time and take short **chapter quizzes** on the material in class. We will use iClickers to administer the quizzes. Quizzes may not be made up for any reason, including adding the class late, forgetting your clicker, having low batteries, and so on. However, there are 14 quizzes in the class, and you may drop the lowest 3 grades. In addition, I will assign **homework** regularly. You must turn in your homework on time (or not at all). Please work on your homework *by yourself* ahead of time. I will grade for completion the day homework is due. You get 0 points for HW that is missing, 2 points for HW that is completed very thoroughly, and 1 point for HW that is completed less thoroughly. I expect you to change HW answers during class after consulting with classmates. I'll ask **formative clicker questions**, too. You get points for trying these, though I'll track correct answers, too.

You will also be required to complete an **APA style assignment** and complete a **final project** that spans several weeks. Extensive details are posted on Canvas. This assignment will help you develop and demonstrate the key consumer of research skills you will learn in this course.

Distribution of requirements:

Best two of Exams 1-3	20% each
Final Exam	25%
Quizzes, homework, and clicker questions	10%
APA style assignment	2%
Final project	23%

Grading cutoffs:

A	93%	C	73%
A-	90%	C-	70% (Note: You need a C- for the major)
B+	88%	D+	68%
B	83%	D	63%
B-	80%	D-	60%
C+	78%		

Policies and Procedures:

Late work, extensions, and assignments. Homework must be turned in on paper, on time, in class, or not at all. I don't accept it late and I don't accept it via email. Missed quizzes may not be made up (however, I drop the lowest three quiz scores). Homework should be prepared on paper and brought to class, but the APA assignment and the final project is turned in online, via Canvas. I do not typically grant assignment extensions because I try to be fair to all students, most of whom balance multiple commitments. You may turn in a non-homework assignment late, but there are daily penalties (see the assignment for details).

Attendance and Professionalism. I presume that you take responsibility for your own learning, so I don't require or take attendance. However, if you choose not to come to class, you will not learn as much. Class time is precious, so in your groups, keep your conversations on topic. Do your homework earnestly and completely (you'll benefit more from it!).

According to many new studies, cell phones and laptops distract you and others around you, interfering with you ability to learn. For this reason, I do not allow you to use phones or laptops in class.

Academic Honesty. Here are my expectations for this class:

- All exam work in this class is to be your own.
- All homework assignments must be your own work; you may not share homework files among group members or turn in others' work as your own. (You *can* change HW answers in class once your work is recorded.)
- You may not share APA style Reference lists with your group; you must prepare your own APA style reference lists so you can all learn APA style.
- All written assignments, both early and final drafts, must be your own work. You may consult with group members on your understanding of material and procedures, but you may not share files with them; you must prepare your own drafts and final copies.

If I discover that you have copied all or part of an exam or written assignment from another source (including another student, a web page, a textbook, or other published source), you will be reported to the Office of Student Conduct for disciplinary action (I usually recommend an X grade in the course).

If, in your writing, you fail to appropriately paraphrase and cite the ideas of others (specifically, if you use an author's elegant phrase or sentence of more than two words and cite the author, but you fail to put direct quotes around the phrase or sentence you copied), I will ask you to redo the assignment, the assignment will be lowered by two full letter grades, **and** I may report it to the Office of Student Conduct. To avoid plagiarizing, you must educate yourself about appropriate citation procedures and follow them carefully. When in doubt, ask.

ADA Note. Students who have documented physical or sensory disabilities may need accommodations so that they can succeed in this class. If you have a disability, please make sure I have your email notice. It will be your responsibility to set up your own extended time exam appointments in the ADA offices (831-4643).

Schedule of Topics and Assignments (subject to minor changes).

Look in Canvas/Assignments/Homework for assignments

Date	Textbook Chapter /Class topic	Assignment
8/31 W	Introduction	
The Big Picture		
9/2 F	Chapter 1: Theory-data cycle	Chapter 1 quiz
9/7 W	Chapter 2: Scientific Reasoning	Chapter 2 quiz

Date	Textbook Chapter /Class topic	Assignment
9/9 F	Chapter 2: Finding literature	
9/12 M	Chapter 3: Three claims	Chapter 3 quiz
9/14 W	Chapter 3: Four validities	
9/16 F	Chapter 3	APA Style References due
9/19 M	Chapter 5: Reliability	Chapter 5 quiz
9/21 W	Chapter 5: Reliability	
9/23 F	Chapter 5: Validity	
9/26 M	Chapter 5: Validity	APA Style References re-due
9/28 W	Exam 1	Chapters 1, 2, 3, 5
Frequency Claims, Association Claims		
9/30 F	Chapter 6: Survey questions	Chapter 6 quiz
10/3 M	Chapter 7: Sampling	Chapter 7 quiz
10/5 W	Chapter 8: Bivariate correlations	Chapter 8 quiz
10/7 F	Chapter 8: Correlation and causation	
10/10 M	Chapter 8	
10/12 W	Chapter 9: Regression	Chapter 9 quiz
10/14 F	Chapter 9	
10/17 M	Chapter 9	
10/19 W	Chapter 9: Longitudinal designs	
10/21 F	Exam 2	Chapters 6, 7, 8, 9
Causal Claims		
10/24 M	Chapter 10: Simple experiments	Chapter 10 quiz (note: 10/25 is the late add/drop deadline)
10/26 W	Chapter 10 (introduce final project)	Read final project assignment on Canvas
10/28 F	Chapter 10	
10/31 M	Chapter 11: Validity threats	Chapter 11 quiz
11/2 W	Chapter 11	Project Step 1 due
11/4 F	Chapter 11: Null results	
11/7 M	Chapter 12: Complex experiments	Chapter 12 quiz
11/9 W	Chapter 12	Project Step 2 due
11/11 F	Chapter 12	
11/14 M	Chapter 12	
11/16 W	Chapter 12	Project Step 3 due (Read Chapter 14 ahead of time)
11/18 F	Exam 3	Chapters 10, 11, 12
Balancing Research Priorities		
11/28 M	Chapter 13: Quasi Experiments	Chapter 13 quiz
11/30 W	Chapter 13	Project step 4 due
12/2 F	Chapter 14: External validity	Chapter 14 quiz (But you read it earlier)
12/5 M	Chapter 4: Ethics	Chapter 4 quiz
12/7 W	Final exam prep	
12/9 F	Final exam prep	Final project due
Finals week (time TBA)	Final exam on all chapters	

Study better! You should read and take notes on the book, but you should not waste your time rereading or pseudostudying. Instead, try the six research-based strategies described on the posters here: <http://www.learningscientists.org/downloadable-materials/?rq=posters>.

Here's a list of effective ways to study, according to research in psychology:

Table 2: Effectiveness of ten learning techniques, from Dunlosky et al (2013)

High utility	Practice testing Self-testing or taking practice tests on material to be learned
	Distributed ('spaced') practice Implementing a schedule of practice that spreads out study activities over time
Moderate utility	Elaborative interrogation Generating an explanation for why an explicitly stated fact or concept is true
	Self-explanation Explaining how new information is related to known information, or explaining steps taken during problem solving
	Interleaved practice Implementing a schedule of practice that mixes different kinds of problems, or a schedule of study that mixes different kinds of material, within a single study session
Low utility	Summarization Writing summaries (of various lengths) of to-be-learned texts
	Highlighting Marking potentially important portions of to-be-learned materials while reading
	Keyword mnemonic Using keywords and mental imagery to associate verbal materials
	Imagery use for text learning Attempting to form mental images of text materials while reading or listening
	Rereading Restudying text material again after an initial reading