

Research Methods in Psychology

PSYCHOLOGY 205, Fall 2017: Monday/Wednesday 12:30-1:50

“Psychology tells us that the unaided human mind is vulnerable to many fallacies and illusions because of its reliance on its memory for vivid anecdotes rather than systematic statistics.”

--Steven Pinker

Professor:

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Overview

Description: In this course, you will learn how to ask and answer questions about the mind using the methods of experimental psychologists.

Course goals: By the end of the course you will be able to:

- Formulate a research question and hypothesis based on a literature review
- Identify which methods are most appropriate for answering a given research question
- Design and run basic psychological studies to test hypotheses
- Analyze basic results
- Write papers in the standard format of experimental psychology
- Think like an experimental psychologist

Textbook: Pelham & Blanton: Pelham, B.W., & Blanton, H. (2013). *Conducting Research in Psychology: Measuring the Weight of Smoke* (4th ed.). Belmont, CA: Wadsworth.

There will occasionally be additional required reading made available on Canvas.

Attendance: Class attendance and participation are required. Most work will take place during in-class discussions and group work sessions. If you anticipate needing to miss several days of class (you have a conference or will be interviewing for jobs), you should consider not enrolling this term.

Requirements

Weekly design challenges. Over the quarter, you will submit 6 design challenges (1 every week except when papers are due). For each assignment, we will provide you with a design covered in class that week, and you will use it to answer a question of your own choosing. For instance, in a two-variable correlation design, you might ask whether happiness correlates with wealth, or GPA with sleep. The prompts will be given on Canvas, and you will post your responses on a discussion page there. At the beginning of the quarter, the prompts will be relatively simple, but they will require more in-depth responses as the quarter continues. You will receive instructor comments on these challenges privately.

Every challenge will be due by the beginning of class on Monday. Please submit these challenges on Canvas in 2 *places*: the relevant assignment in the gradebook AND the discussion forum for that week.

Weekly “follow-up” comments. In addition to posting your own response to a design challenge, you will also comment on at least one classmate’s response from that week. In this comment, you will propose a follow-up study, using a different design to ask the same question (or extend it). The comments must be *constructive*; the goal is *not* to critique your classmate’s original proposal. You might propose a follow-up experiment that has greater ecological validity, or propose a different method (e.g., a correlational study instead of a two-group experiment) to provide convergent evidence with the original study. Your comments will be due by the beginning of class on Wednesday.

Mid-term paper. You will write a short scientific manuscript, including an abridged introduction, full methods and results sections, and a discussion. The study will be drawn from one of our in-class surveys—either a replication study or one of the class-generated studies.

Research Proposal. You and a partner will design and propose an original study, including a short introduction, a complete methods section, and a short “Analysis” section discussing your plan for analyzing and interpreting the data. Only one proposal needs to be submitted for each group. Instructor feedback on this proposal should help to shape your final paper.

Final paper. You will write a complete scientific manuscript, reporting the outcomes of your own original study. This means an Abstract, Introduction, Methods, Results, Discussion, References, Figures and Tables, etc. Each student will submit their own paper. Even though you designed and conducted your study with a partner, each of you is required to submit a separate, independently written manuscript.

Grading

In an effort to keep the grading process as objective as possible, we ask that you include only your student ID number (and not your name) on all papers and research proposals.

For all assignments, late submissions will be penalized by 10 percent daily without exception. No excuses will be accepted. Extensions will be granted only in the direst of circumstances.

There are 100 total points (each worth 1 percentage point) you can earn in this course:

Attendance/Participation	10 points
Design Challenges	25 points
Follow-up Comments	10 points
Mid-term Paper	25 points
Research Proposal	5 points
Final Paper	25 points

Administrative Details

Policy on absences. If you are going to miss a class, you must make your own arrangements to learn the material you missed. Generally, we will provide the slides used in the class period, but we encourage you to also look over a classmate's notes and discuss the class with them. If you are still confused about something, please come see us.

Policy on extensions. For the midterm, proposal, and final papers, we will not grant extensions except in dire circumstances. After all, you will be given several weeks' worth of time to develop each of them. If you have an extended medical crisis that prevents you from working on them over this time period, please go to the health services office and have them document it. Any other reasons for an extension must also be documented (e.g., by a Dean) prior to the paper deadline. For the weekly design challenges and follow-up comments, any extension requests must also be accompanied by documentation (e.g., from health services or the Dean's office).

Policy on plagiarism. Students are expected to be familiar with Northwestern's policies on plagiarism and academic dishonesty. For this course, you should not produce identical project reports. Furthermore, all homework assignments and exams should be completed independently.

Policy on late assignments. All assignments are due before class on the date due, as they will be discussed in class. Please note that the data for each project are due by noon the day before the data analysis class for that project. Late assignments will not be accepted.

Policy on accommodations for academic disabilities. I encourage students with disabilities, including "invisible" disabilities like chronic diseases or learning disabilities, to identify themselves to one or both instructors either after class or during our office hours, prior to the 3rd week of the term.

Policy on grade changes: If you are doing poorly in the course, come see one of us as soon as possible. We can and will help you do better on subsequent assignments if you are willing to put in the work. However, if you wait until the end of the course, do badly, and then come to us for help, there is nothing we can do. We do not offer extra credit on an individual basis. In short, your final grade will be final.

Policy on emailing instructors. When you have a question about the course, please email both of us. It's possible that you'll only need one of us, but please include us both on the email, just so we can both keep track of everything.

Important note. Like a good mattress, these policies are firm but not rock-hard. We realize that individual cases may involve extenuating circumstances that would allow for changing some of these policies. We encourage you to contact us if you have any questions about how your particular case should be treated.

****We reserve the right to change aspects of the syllabus as needed. This may include adding additional readings and adding additional short homework assignments not currently on the syllabus.****

Week		Monday Session	Wednesday Session	Assignment
1	9/20	N/A	Scientific method Operationalization Chapter 1, pp. 9-27, Ch. 2, 29-38	Canvas intro
2	9/27	Principles of experimental design IVs and DVs Chapter 3 Chapter 7	Threats to validity Sampling techniques Chapter 5	Design challenge (DC) due Mon.; Follow-up comments (FC) due Wed.
3	10/2	Advanced experimental design Quasi-experimental designs Chapter 8 Chapter 9	Writing a methods section Replicating an experiment Rogers, Moore, & Norton article (esp. Intro, Expt. 1, and Discussion)	DC due Mon.; FC due Wed.
4	10/9	Statistics Overview Writing a results section Chapter 10	Writing introductions No reading; work on your papers	DC due Mon.; FC due Wed.
5	10/16	Correlational designs Regression and correlation Chapter 6, pp. 181-187	Principles of survey design Creating scales & reliability Chapter 4	Mid-term paper due Wed.
6	10/23	Covariate designs Observational studies Chapter 6	Writing for non-experimental designs Reading TBD	DC due Mon.; FC due Wed.
7	10/30	Proposal Workshop Writing a proposal No reading; work on proposal	Qualtrics Workshop No reading; work on proposal	Proposal due Friday by midnight
8	11/6	Writing a discussion No reading	Reproducibility Reading TBD	DC due Mon.; FC due Wed.
9	11/13	Final project work	Final project work	
10	11/20	Final project work	Cancelled for Thanksgiving!	

Final Project is due Dec. 4 by midnight