

Syllabus for Research Methods I

Oberlin College

Spring 2019

Professor Paul Thibodeau
Lecture: MWF 1:30-2:20 (Seve 132B)

This course will cover the nature of scientific knowledge, how to design and run psychological studies, research ethics, and basic statistics. Most importantly, this class will give you powerful new tools for thinking critically about psychological research, and the practical skills needed to scientifically investigate human behavior and the world around you. You will gain hands on experience with data management and statistics software, as well as designing and running experiments, and you will learn what bags of candy can teach us about probability.

I Learning goals

- Develop quantitative reasoning skills: interpreting and drawing inferences from mathematical models, graphs, and tables; computing and interpreting statistical tests; representing numeric information visually and verbally
- Learn how to design, run, and analyze psychological studies (observational and experimental)
- Critically evaluate the science depicted in popular and academic media
- Use software like Excel and SPSS to organize data and conduct statistical analyses
- Acquire a conceptually rich understanding of basic statistical concepts and procedures
- Cultivate a rigorous and ethical scientific mindset
- Enhance capacity for teamwork

2 Instructor information

There are two components of the course: lecture and lab. Dr. Paul Thibodeau is the primary instructor and is in charge of lecture. Dr. Pete Naegele is the lab instructor. Questions related to lab and SPSS should be directed to Pete. There will also be two TAs for the course: Emery Webster and Bethany Gen. Emery and Bethany will attend class and lab, and they will also have office hours for extra help. All of us are available outside of specified office hours as well – just send us an email.

Name	Contact	Office hours (Location)
Dr. Paul Thibodeau	pthibode@oberlin.edu	Friday 2:30-3:30 (Seve 205)
Dr. Pete Naegele	pnaegele@oberlin.edu	Tues 10-12 & Thurs 1-3 (Seve 107)
Emery Webster	ewebster@oberlin.edu	Sunday 3-4:30 (QS center)
Bethany Gen	bgen@oberlin.edu	Tuesday 3-4:30 (QS center)

3 Educational Materials

There are two required texts for the course (see below). All assignments and announcements will be posted on Blackboard. In addition, you will use SPSS computer software in this course, although you do *not* need to purchase a copy of SPSS. The software should be installed on most computers on campus. It is on all of the computers in the Psychology Department computer lab (in Severance 132A).

1. *Research Methods* by Howell. This is a “course pack” which includes selected chapters from two of Howell’s textbook and online access to supplementary material. It is available in the college bookstore. In PSYC 200, all of the readings will come from *Fundamental Statistics for the Behavioral Sciences*, 9th edition, Howell. Readings for PSYC 300 will come from this textbook as well as *Statistical Methods for Psychology*, 8th edition, Howell.
2. *APA Manual*. This manual describes APA guidelines for writing in the discipline of psychology. It is also available in the college bookstore.

4 Course Components and Grading

There are four main components of the course:

Component	Percentage	Details
Exams	40%	4 equally-weighted exams (2/27, 3/19, 4/17, & 5/8)
Problem sets	20%	8 equally-weighted (in assigned groups; lowest dropped)
Final project	10%	A written report due during exam period (5/15 at 11AM)
Participation	10%	Daily questions and short assignments
Lab	20%	11 lab exercises

1. **Exams.** There will be four in class exams. They will be weighted equally.
2. **Problem sets.** There will be three parts to problem sets. **Part 1** will typically involve reading sections of the textbook and working through a few textbook problems on your own. You will submit these responses on Bb. **Part 2** will involve working through problems and evaluating popular and scientific media in (assigned) groups. This part will be submitted in class (usually on Wednesdays). There will generally be at least some class time to work on the problem sets on Mondays and Fridays. Groups will be reassigned throughout the semester. **Part 3** of the problem set will involve completing a group evaluation questionnaire online (on your own).
3. **Daily questions:** Class meetings will often begin with a daily question (DQ) that relates to the topic we are discussing at that point in the semester. These will be checked for completion but not graded.
4. **Final project:** There will be a final group research project due at the end of the course. The goal of the final project is to develop your ability to write an APA style paper—and to use the tools you learn in class. The final project will be due during the final exam period for the class.
5. **Participation.** There are several ways that you will be asked to participate in this course: attending class, completing daily questions and short assignments, and engaging in classroom discussion.
6. **Lab.** Finally, there will be a number of assignments to complete related to the lab, which involve using computer software to perform statistical analyses and interpreting the results. Pete will discuss these assignments with you in lab. He will also be in charge of grading these assignments. All questions about the lab and lab-related assignments should be directed to Pete.

Submission of Late Work

This course moves quickly and builds on itself. It is important that you to complete the work when it is due—both for yourself and the groups that you will be working with. If you need to reschedule an exam, please let me know as soon as possible. Problem sets and daily questions cannot be rescheduled. Rescheduling the due date for the final project requires permission from Academic Advising Resource Center (AARC).

5 Miscellaneous

1. The Oberlin College Honor Code will apply to all work submitted for this course.
2. Students with special needs should provide documentation from the Office of Disabilities Services (Peters Hall 116-118; x55588; ods@oberlin.edu) regarding accommodations for lectures and examinations as soon as possible.
3. You may make audio recordings of the lectures for your personal use, but you may not post those recordings publicly.
4. Use of a computer in class is not recommended. If classroom computer usage becomes distracting, they may be discouraged even more strongly.

6 Schedule

Week (date)	Topic	Assignment Due
1 (2/4)	Basic Concepts	
2 (2/11)	Probability & Hypothesis testing	PS1
3 (2/18)	Chi-square	PS2
4 (2/25)	Review	Exam 1
5 (3/4)	Central tendency	PS3
6 (3/11)	Variability & Normal distribution	PS4
7 (3/18)	Review	Exam 2
SB (3/25)	SPRING BREAK	
8 (4/1)	t-tests	PS5
9 (4/8)	t-tests	PS6
10 (4/15)	Review	Exam 3
11 (4/22)	Correlation & Regression	PS7
12 (4/29)	ANOVA	PS8
13 (5/6)	Review	Exam 4