

PSY 303: RESEARCH METHODS IN PSYCHOLOGY: COGNITIVE / NEUROSCIENCE
University of Oregon
Spring 2018

Instructor: Kyle Morgan, M.S.

Email: kmorgan3@uoregon.edu

Office: STB385

Office Hours: Tuesdays (Class will determine the best times)

Course Meeting Times

Mondays & Wednesdays 10:00 – 11:20 am in STB006

Course Materials

(1) PDF files on Canvas (required)

All required course materials (handouts, assignments) will be posted on the Canvas site.

(2) Helpful resources (recommended)

- ◆ Clark, H.H. Everyone can write better (and you are no exception). Advice to students of psychology. http://www.psychology.stonybrook.edu/sbrennan-/psy384/papers/hc_write.html
- ◆ American Psychological Association (2009). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: APA. (Available at Duckstore)
- ◆ Strunk, W., Jr., & White, E. B. (2000). *The elements of style* (4th ed.). New York: Longman. (Available at Duckstore)

Course Description

This course is the final course in the 301-303 series. This course will focus on building your skills as a *producer* of quality cognitive/cognitive neuroscience research, although in the process, you will also improve your skills as a *consumer* of a wide variety of research. You and your classmates will be working together to design, analyze, and discuss your own research project. In addition, you will be individually writing up your research throughout the term in separate writing assignments. You will receive feedback on your writing, and throughout the term, you will revise your writing assignments and synthesize them into two main research papers based on a correlational research study, and a related experimental research study. You will also present your research projects to the class to gain practice communicating research effectively.

This course may be repeated for credit a maximum of one time provided there is a change in topic.

A Bit About Topic-Specific Research Methods

Each topic-specific course will focus on research production skills, but the nature of the research and the specific tools that are used will differ by topic.

For example, Research Methods in Psychology: Cognitive Psychology (this course) will emphasize asking research questions that are unique to cognitive psychology (e.g., How do we search information in short-term memory?), finding literature in cognitive psychology journals, using research designs that are common in cognitive psychology (e.g., repeated-measures

designs), collecting data typical of cognitive psychology experiments (e.g., reaction time or neuroimaging), and conducting appropriate statistical procedures (e.g., related-samples t-tests, repeated-measures ANOVAs).

As a comparison, Research Methods in Psychology: Social Psychology will emphasize asking research questions that are unique to social psychology (e.g., What factors reduce conformity? How stable are first impressions of people?), finding literature in social psychology journals, using research designs that are common in social psychology (e.g., between-subjects designs, with different “primes” used to establish experimental conditions), collecting data typical of social psychology experiments (e.g., using self-report scales with established reliability), and conducting appropriate statistical procedures (e.g., factorial ANOVAs, multiple regression).

Learning Objectives

- ◆ Review existing psychological literature: perform effective literature searches, identify key research questions and hypotheses in scientific articles, and critically evaluate the research design and quality of evidence presented.
- ◆ Conduct your own original research: generate research questions and hypotheses, evaluate ethical considerations, design materials to measure variables, and collect data.
- ◆ Analyze, interpret, and communicate your findings: choose appropriate basic statistical analysis techniques for specific research questions and specific data sets, perform basic data analyses, and summarize the results in an APA-style report and an oral presentation.

Student Workload

When you complete this course, you will earn 4 credits toward your degree. Four credits is the equivalent of 120 hours of work across the term, or 12 hours per week for 10 weeks. You will spend 3 hours in class each week. The other 9 hours will be spent completing assignments.

Expectations and Grading

Homework

There will be seven homework assignments in this course. Homework assignments will include choosing a research topic, finding relevant scientific articles, creating tables and figures, answering questions about research designs or ethics, and preparing questionnaires and experimental materials. Homework assignments are due at the start of class. Late homework assignments will be penalized by 50% regardless of when they are submitted, and because homework assignments build on each other, no homework assignments will be accepted more than 1 week late. Some of these homework assignments will be collaborative and will involve working with a small group of your classmates, and some of the homework assignments will be completed independently. Specific instructions and expectations will be provided for each assignment.

Writing Assignments

The writing assignments in this course are scaffolded, such that by the time you are writing your final paper, you will have practiced and received feedback on each of the components of an APA-style research report. There will be five writing assignments in this course, culminating in two major papers. These writing assignments include a conceptual introduction or literature review, a description of methods, a description of results, and a discussion section, each of

which is a main component in an empirical research report. In addition to getting feedback on your writing from your instructor, you will exchange your writing with peer reviewers (classmates), who will provide you with written feedback. Each of the smaller writing assignments is worth between 5-10% of your grade, and the complete papers are each worth 15%. Writing assignments are due at the start of class (except for the final paper). Late writing assignments will be penalized 10% per day unless discussed with the instructor ahead of time (with a *valid* excuse). **All writing assignments must be completed independently**, however, receiving feedback on drafts from group members, friends, tutors, and instructors is encouraged and completely appropriate. In all cases, you must not have the writing done for you.

Class Presentations

In this course, you will be conducting research with a small group of your classmates. During the first part of the course, you will be presenting a review of background literature for the correlational paper. During the last week of classes, your group will present a future directions poster based on the results of the experimental paper.

Literature review presentation: Your presentation should include background information from two articles relating to the correlational topic. It should emphasize the specific findings from the background literature and show how they may relate to the specific hypotheses of the correlational study.

Future Directions Poster Presentation: Your presentation should include relevant background information, details about the methods, your results, a discussion of the significance of the results, and ideas for future research or improving upon your research study including hypotheses, proposed methods, and predictions.

Both presentations are worth 6% a piece.

Class Attendance and Participation

Regular attendance is essential for doing well in this course. Much of what you learn in this course will come from hands-on experiences and activities in the classroom. I will often ask you to complete short exercises in class, and your participation and engagement in these exercises will be recorded as your class participation grade.

Final grades in this course will be determined by the following:

- ◆ Homework: 10%
- ◆ Writing assignments: 70%
- ◆ Class presentations: 12%
- ◆ Participation: 8%

****The 2 papers and 2 presentations will take place of “traditional” midterm and final exams.**

****Assignment grades on Canvas correspond to total class percentage points (e.g. an assignment worth 1 pt on canvas is the equivalent of 1% of your total grade).**

Grades will be distributed as follows:

A+	97-100%	B+	87-89%	C+	77-79%	D+	67-69%	F	0-59%
A	93-96%	B	83-86%	C	73-76%	D	63-66%		
A-	90-92%	B-	80-82%	C-	70-72%	D-	60-62%		

Please see the psychology department guidelines for a description of the type of achievement that each grade signifies: <http://psychology.uoregon.edu/courses/department-grading-standards/>

Academic Honesty

All work submitted in this course must be your own. Violations will be taken very seriously and are noted on student disciplinary records. If you have any questions about what constitutes academic dishonesty, please ask me. For more information, see the UO website regarding academic honesty at:

<http://uodos.uoregon.edu/StudentConductandCommunityStandards/AcademicMisconduct.aspx>

Special Accommodations

Accessible Education Center (AEC)

If you have a documented disability and anticipate needing accommodations in this course, please make arrangements to meet with the instructor as soon as possible. Also, please request that a counselor at the Accessible Education Center (uoaec@uoregon.edu, tel. 541-346-1155) send a letter verifying your disability. For a list of resources provided by the Accessible Education Center, please see <http://aec.uoregon.edu>.

Students for Whom English is a Second Language

If you are a non-native English speaker and think you may have trouble in this course due to language difficulties, please see the instructor as soon as possible to make any necessary special arrangements.

Course Schedule

HW = homework assignment; WR = writing assignment, PRES = presentation

Date	Topic	Due Dates
4/2: Day 1	<ul style="list-style-type: none"> - Syllabus & Topic Overview - Review of Statistical Concepts - Introduction Section Guidelines - Finding Research Articles <p>HW1: Correlational Hypothesis & Research Article WR1: Correlational Introduction</p>	
4/4: Day 2	<ul style="list-style-type: none"> - APA Citations & References Guidelines & Activity - Literature Presentation Guidelines - Article Discussions in Groups - Literature Search <p>HW2: APA References & Citations PR1: Literature Presentation</p>	HW1 Due
		WR1 Due Sunday @ 5pm
4/9: Day 3	<ul style="list-style-type: none"> - Method Section Guidelines - Survey Design Activity - Introduction to Qualtrics <p>Reminder: Submit Surveys for Correlational Study</p> <p>WR2: Updated Intro + Method Section for Peer Editing</p>	HW2 Due
4/11: Day 4	Literature Presentations	PR1 Due
4/16: Day 5	<ul style="list-style-type: none"> - Descriptives & Reliability Analysis in SPSS - Finish Qualtrics Surveys for Correlational Study 	Survey Submissions Due by End of Class
4/18: Day 6	<ul style="list-style-type: none"> - Ethics of Research - Components of IRB Forms - In-Class Data Collection PLEASE SHOW UP <p>HW3: Peer Edit Correlational Intro + Method Sections</p>	WR2 Due (bring 2 hard copies of your introduction & method sections to class)
		Online Data Collection

4/23: Day 7	<ul style="list-style-type: none"> - Results Section Guidelines - Correlational Data Analysis & Interpretation - Tables & Figures 	HW3 Due
4/25: Day 8	<ul style="list-style-type: none"> - Discussion Section Guidelines - Data Analysis Workshop - Correlational Results Write-Up 	
4/30: Day 9	<ul style="list-style-type: none"> - Final Correlational Paper Guidelines - Title Page, Abstract, & Appendix - Discussion of Results with Other Groups <p>WR3: Final Correlational Paper</p>	
5/2: Day 10	<ul style="list-style-type: none"> - Getting Into Grad School 101 	
		WR3: Final Correlational Paper Due Sunday @ 5pm
5/7: Day 11	<ul style="list-style-type: none"> - Introduction to Experimental Design - Experimental Research Topic - Choose a Research Question & Hypothesis <p>HW4: Experimental Hypothesis & Research Article</p>	
5/9: Day 12	<ul style="list-style-type: none"> - Modeling Experimental Predictions & Discussion on Interactions - Article Discussions in Groups 	HW4 Due by end of day
5/14: Day 13	<ul style="list-style-type: none"> - Introduction & Method Section Guidelines <p>WR4: Experimental Introduction & Method Section</p>	
5/16: Day 14	<ul style="list-style-type: none"> - A (good!) Intro to Neuroimaging & Cognitive Neuroscience 	
		WR4 Due Sunday @ 5PM
5/21: Day 15	<ul style="list-style-type: none"> - Results Section Guidelines - Factorial ANOVA Analysis & Interpretation <p>HW5: Peer Edit Experimental Intro + Method Sections</p>	Bring 2 paper copies of WR4 to Class for Peer Editing

5/23: Day 16	<ul style="list-style-type: none"> - Experimental Results Write-Up - Discussion Section Guidelines - Experimental Poster Presentation Guidelines <p>PR2: Experimental Poster Presentations</p>	
		HW5 Due Sunday @ 5pm
5/28: Day 17	Memorial Day No Class!	
5/30: Day 18	<ul style="list-style-type: none"> - Final Experimental Paper Guidelines <p>WR5: Final Experimental Paper</p>	
6/4: Day 19	- Writing & Poster Workshop	
6/6: Day 20	Experimental Poster Presentations	PR2 Due
6/11- 6/15	FINAL EXAMS WEEK	WR5 Due by June 13th @ 11:59PM