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PSYX 523.01: Research Design

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PSYX 523 – Research Design

Spring 2016

Instructor Information

Instructor: Dr. Allen Szalda-Petree

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Office Hours: T & Th 10 – 11, W 11 – 12, and by appointment

Dept URL: cas.umt.edu/psychology

Readings

- Experimental and Quasi-Experimental Designs (Shadish, Cook, and Campbell)
- Selected readings on Moodle (see reading schedule for full citations)

Purpose

This course concerns the logic of causal inference in social science research. It begins by considering the potential obstacles to causal inference, including faulty measurement, unrepresentativeness, spuriousness, specification errors, and other problems that can lead to inappropriate causal inferences. With that background, the course then discusses experimental and non-experimental research designs, examining the inferential pitfalls peculiar to each design. Although it does cover some of the basics of the analysis of variance and other statistical procedures, it is not intended to be a statistics or data analysis course. Instead, the aim is to convey the logic behind various data analytic procedures and the different problems that can limit the conclusions using these tools. It compares various frameworks for understanding errors in surveys and other research designs and applies these frameworks to understanding the inferential problems that arise in research.

Assessment

Class Participation (10% of final grade)

Participation in class discussions will be evaluated informally; I'll be looking for contributions to the class discussions that demonstrate familiarity with the readings.

Exams (50% of final grade)

- Take-home Midterm (25% of final grade): The midterm will consist of approximately six questions that you will have approximately 24 hours to answer. You are free to use any library resources. You are NOT allowed to work together or to use human resources (such as others who have taken the class).
- Take-home comprehensive final (25% of final grade): The comprehensive final will use the same format and rules as the midterm.

Research Proposal & Presentation (30% & 10% of final grade)

The research proposal will consist of a literature review, statement of hypothesis with justification, proposed research design and methods (including subjects, apparatus/materials,

and procedure), proposed statistical analysis, and interpretation of hypothesized and alternative results. The proposal **MUST** adhere to APA format. The process for writing the paper will be formally scripted in 7 steps (see class schedule below for due dates):

- 1) Choose a topic and present rationale for your interest
- 2) Preliminary literature search: Generate 1 page summaries of 6 critical articles and hand-in the summaries and a copy of the abstract for each article to the instructor
- 3) Submit rough draft of literature review
- 4) Present for discussion your hypothesis and proposed research design & analysis
- 5) Submit rough draft of hypothesis, methods and results
- 6) Present entire proposal in class
- 7) Hand in final paper to the instructor (20 page maximum plus references)

Grading

Grades will be assigned using the adjacent performance criteria for all exams and final course grade.

Percent Correct	Grade
90 – 100%	A
80 – 89%	B
70 – 79%	C
60 – 69%	D
0 – 59%	F

Classroom Behavior

General

As a university student, certain behavior is expected of you. Most importantly, it is your responsibility to meet the requirements of this course. You may expect me to be in the classroom on time, prepared & organized, and open to discussion/questions pertaining to the day's subject matter. I will expect you to be in the classroom on time, to be awake and attentive, to participate in demonstrations/discussions, and to be respectful toward the instructor and other students.

I understand there will be circumstances beyond your control that, on occasion, will require you to leave class early. Please plan accordingly by notifying me at the beginning of class and choose seating that will result in minimal disruption. You should feel free to ask any questions in class. Also, please feel free to see the instructor about any classroom issue during office hours.

Disability Modifications

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and [Disability Services for Students](#). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or call 406.243.2243. I will work with you and Disability Services to provide an appropriate modification.

Wireless Communications (cell phones/pagers/computers/PDAs)

For what should be blatantly obvious reasons, the use of wireless communications devices during class is prohibited. This specifically includes such activities as 1) placing or receiving phone calls, 2) sending or receiving text messages, and 3) internet searching, game playing, etc. If you are an emergency professional (physician/nurse, counselor/therapist, EMT, etc.) or you are expecting an **EMERGENCY** communication please set your wireless device to silent alarm mode and quietly exit the classroom to respond.

Academic Misconduct

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or disciplinary sanction by the University. All students need to be familiar with the [Student Conduct Code](#).

Tentative Class Schedule

Dates	Readings & Assignments
Jan 26 Jan 28	Introduction Open Science Collaboration (2015) Open Science Collaboration (2015). Estimating the reproducibility for psychological science. <i>Science</i> , 349, 1-7. Keppel (1991) Keppel, G (1991). <i>Design and analysis: a researcher's handbook (3rd ed.)</i> , Englewood Cliffs, N.J.: Prentice Hall.
Feb 2 Feb 4	Shadish, Cook, & Campbell – Chapter 1 Feb 4: Choose proposal topic and present rationale for interest
Feb 9 Feb 11	Shadish, Cook, & Campbell – Chapters 2 & 3 Cohen (1992) Cohen, J. (1992). A Power Primer. <i>Psychological Bulletin</i> , 112, 155-159.
Feb 16 Feb 18	Kirk (2003) Schinka, J., & Velicer, W. F. (Eds.) (2003). <i>Research Methods in Psychology</i> . Volume 2 of <i>Handbook of Psychology</i> (I. B. Weiner, Editor-in-Chief). New York: John Wiley & Sons. Feb 19: Preliminary literature search assignment due
Feb 23 Feb 25	Shadish, Cook, & Campbell – Chapter 4
Mar 1 Mar 3	Shadish, Cook, & Campbell – Chapter 5 Mar 4: Rough draft of literature review due
Mar 8 Mar 10	Shadish, Cook, & Campbell – Chapters 6 & 7
Mar 15 Mar 17	Shadish, Cook, & Campbell – Chapter 8 Midterm available March 17th at 8 am and DUE Mar 18th at 5 pm
Mar 22 Mar 24	In-class presentations of hypothesis & proposed research design & analysis
Mar 29 Mar 31	APA Ethical principles of Psychologist and code of conduct 2010 : Sections 1, 6, 7, & 8 Shadish, Cook, & Campbell – Chapters 9 & 10
Apr 5 Apr 7	Spring Break

Dates	Readings & Assignments
Apr 12 Apr 14	Shadish, Cook, & Campbell – Chapters 11 & 12 Apr 15: Rough draft of hypothesis, methods, & results due
Apr 19 Apr 21	Shadish, Cook, & Campbell – Chapters 13 & 14
Apr 26 Apr 28	Formal paper presentations 1) _____ 2) _____ 3) _____ 4) _____
May 3 May 5	Formal paper presentations 5) _____ 6) _____ 7) _____ 8) _____ May 6: Research Paper Due
FINAL EXAM	Final exam: Available Monday, May 9th at 8 am and DUE Tuesday, May 10th at 5 pm