

J381-2 Designing Experiments Spring 2018 – unique #07599

Seminar: Tuesdays and Thursdays 12:30 p.m. to 2 p.m.
Professor: Prof. Renita Coleman, Ph.D.
Phone: 512-471-1969, Cell – 512-971-3941.
Office Hours: Tuesdays and Thursdays 10:30 a.m. to noon and by Appointment.
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Required:

Bausell, R. B. (1994). *Conducting Meaningful Experiments: 40 Steps to Becoming a Scientist*. Los Angeles: Sage.

Coleman, R. (Anticipated August 2018). *Designing Experiments for the Social Sciences*. Sage. As this has not yet been published, I will provide you with PDF copies of the chapters via Canvas.

Readings posted on Canvas, handed out during class, or available online.

Course Overview

If you are interested in causality rather than just correlation, and testing hypotheses for cause and effect, then this class is for you.

This class is different from most other experimental design courses in that it focuses on methodological and design issues in planning an experiment rather than on analyzing the data with various statistics. The class *will* briefly cover that aspect, but the focus is mainly on enabling you to have a fully designed experiment, which you can then carry out as a research paper, thesis, or dissertation proposal. Rather than just reading about controlled experiments and field experiments, single factor experiments and factorial designs, manipulation checks, etc., we will walk through the steps in deciding which of these elements is best used in the creation of your own experiment, including creating the stimuli and instrument. By the end of the semester you will have submitted an application to the IRB and be ready to run subjects for your experiment. The inner workings of the statistics, formulas, and calculating them by hand will not be part of this class; you should take a traditional experimental design class if you want to learn that.

This class is not the same as the experimental design classes from the psychology department; it is a complement to those, however. If you are looking to become a qualified experimentalist, take this course and one in psychology too.

Experiments are considered advanced research methods, so a basic research methods class and a theory class are pre-requisites. That said, this course will not

include arcane language or assume you know anything about experiments or statistics used to analyze them; you should have a basic knowledge of the scientific method, and have conducted at least one study of any kind (content analysis, survey, etc.). Knowledge of theory is necessary because experiments are used to test hypotheses posed through some theoretical framework, not just hunches.

This class meets twice a week for 1-1/2 hours each day. In general, the first day will cover the readings and theory of experimental issues; the second day will be more like a workshop where we work on designing your own experiment.

Objectives:

- 1) To develop an understanding of experimental methods and major experimental designs, and think critically about their proper application in social science research.
- 2) To write hypotheses that can be tested using experiments.
- 3) To be able to develop different types of experimental and quasi-experimental designs.
- 4) To apply knowledge of ethical standards to an experiment and be able to submit an application to the IRB.

Course Requirements & Expectations

Your grade will be based on attendance and participation, papers analyzing the readings, assignments, and a final individual paper that represents a fully designed and ready-to-be-conducted experiment, which you will present to the class, conference style. Assignments must be turned in by the beginning of class on the day they are due. Late assignments will be penalized one letter grade for every day late.

Religious Holy Days Observance Policy

The Texas Education Code specifies that an institution of higher education shall excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this provision may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence. A student who misses classes or other required activities, including examinations, for the observance of a religious holy day should inform me as far in advance of the absence as possible, so that arrangements can be made to complete an exam within a reasonable time after the absence.

https://liberalarts.utexas.edu/academic-affairs/_files/pdf/Religious-Holiday-Observances.pdf

Class Attendance and Participation

You will be expected to come to class regularly and contribute to the learning of others in some significant way. Discussion is the most obvious way to contribute, provided your comments are thoughtful and informed. You will write papers on the readings (below) to assist you with this. If you are one of the painfully shy, please find other ways to contribute; bringing in examples and material related to the topic of the day, for example. Be creative and find a way. The value of this class is achieved primarily through in-person participation; you will not be able to achieve the course goals as a distance learner. This can only be accomplished with your physical presence; if you are unfortunate enough to be sick a substantial portion of the semester, you will need to take this class at another time. The university allows excused absences for medical illnesses with written excuses, religious holy days, official extracurricular activities, and military service; however, if you miss more than 4 class days, even with approved excuses, you will need to drop the class and take it another time.

Papers on the Readings

One-page “reflection” or “thought” papers that analyze and synthesize some idea related to the methodology in one or more of the readings. This is a class in experimental methodology, so write on something about the aspect of the **method** that we are studying that week (manipulation checks, sampling, etc.), not the findings, the literature, etc. You don’t need to critique them the way you would if you were reviewing them for a conference. Bring these reflection papers to class with you. These are tied to your attendance; they are not accepted if you do not attend. There are 10 of these, and you can miss up to 3 with no penalty as I drop the 3 lowest grades. One purpose of these papers is to give you the opportunity to think about the things in the readings so that you have something insightful to say during class discussion. There is a great amount of latitude in what you write about for your reflection paper; however, the overarching goal is for you to generate thoughtful insights about the methodological aspects of the readings. You may relate ideas from two or more readings, or concentrate on a specific part of one article. Do not summarize the readings. Pick one point or topic and write the whole page on it; you will get a better grade for one page in depth on one subject than 2 superficial pages on 3 subjects. Think of it as a short “discussion question” that expands your ability to think critically as higher education is supposed to do. These papers will be graded on quality, with more points awarded for the most thought-provoking writings. Remember, write on something about the method – how the hypotheses were written, the way a concept was operationalized, the choice of between or within subjects design, if a manipulation check was needed or not, etc. Each week is devoted to a specific topic related to experimental design, so use the week’s topic as your focus. **Submit in class on paper, or by email if you also attend class. Do not submit if you do not attend class without an approved excuse and documentation.**

Assignments

These build toward your final paper including your 3 ideas, literature review,

hypotheses, sampling strategy, stimuli, manipulation check, IRB proposal, and instrument. These assignments are your opportunity to get feedback on your experimental design prior to submitting the final paper. *Send a copy of each assignment to at least one other classmate for peer review.* We will also workshop them with feedback from the rest of the class. **Submit by email.**

Final Experimental Design Paper

This represents the culmination of the entire semester's work. It will be a full-blown research paper on an experiment, up to the results section. It should be suitable for submission to a conference once you have collected the data, written up the results, discussion and conclusion. This part of the paper, minimum 15 pages, will include the introduction, theory and literature review, hypotheses, and a completed methods section. We will read many experiments that have been published in journals for you to model yours after. While the assignments build toward the final paper, this final paper does not consist of just stringing them all together in one document; this is expected to be much higher quality than the assignments. It needs to be clearly and concisely written, suitable for acceptance to a major conference after the subjects have been run and last half of the paper written. **Submit by email.**

Grading Procedures:

The weight of assignments will be as follows:

Class attendance and participation	15%
Papers on the readings:	20%
Assignments:	25%
Final experimental design paper:	40%

Grade scale:

A = 94-100

A- = 90-93

B+ = 87-89

B = 84-86

B- = 80-83

C+ = 77-79

C = 74 -76

C- = 70-73

D+ = 67-69

D = 64 - 66

D- = 60 - 63

F = below 60 points

Please also note that I do not round up. An 89.99 is still a B+; it takes a full 90 earned points to receive an A-.

Any questions, concerns, or disagreements about grades must be submitted to me in writing within 10 days of when the grade is posted on Canvas (email: renita.coleman@austin.utexas.edu).

Grade categories are defined as:

A - The work is intellectually rigorous, shows an exceptional understanding of the material and is error free. Ready for publication with minor revisions.

B - The work illustrates a good effort at understanding the material and has few errors. A revise-and-resubmit.

C & D- The work indicates little progress toward gaining an understanding of the material and has substantial errors. Reject.

F - The work shows no understanding of the assignment or was not completed in a timely manner. The editor does not even send it out for review. Desk reject.

Turning in Assignments

Assignments are to be turned in at the beginning of the class during which they are due. Late assignments and those not properly turned in will be penalized one letter grade for every day late. There are no make-ups. Exceptions: University-approved excused absences for medical illnesses with written excuses, religious holy days, official extracurricular activities, and military service up to 3 class days. If you have a planned absence, turn in assignments before the due date. There is no extra credit.

University Honor Code

The University defines academic dishonesty as cheating, plagiarism, unauthorized collaboration, falsifying academic records, and any act designed to avoid participating honestly in the learning process. Scholastic dishonesty also includes, but is not limited to, providing false or misleading information to receive a postponement or an extension on a test, quiz, or other assignment, and submission of essentially the same assignment for two courses without the prior permission of the instructors. By accepting this syllabus, you have agreed to these guidelines and those on the Student Judicial Services website and must adhere to them. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. I am required to report all suspicion of infractions to the University and will also let them investigate and decide on any consequences should they confirm a violation.

Visit the Student Judicial Services Web site: <http://deanofstudents.utexas.edu/sjs>.

University Health Services

The University has considerable health related resources for students. These include a 24-7 Nurse Advice Line (512 475-6877) <http://healthyhorns.utexas.edu/>, a 24-7 Telephone Counseling Line (512 471-2255) <http://www.cmhc.utexas.edu/>, and a Behavioral Concerns Advice Line (512-232-5050)

<https://operations.utexas.edu/units/csas/bcal.php>. Students are encouraged to take advantage of these resources as needed.

Students with disabilities

The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. A documented disability statement from Services for Students with Disabilities must be provided to me in the first week of class or as soon as the certification is received, an in-person discussion about it held with me, and all regulations of SSD followed. Excused absences of up to 5 days must be related to your disability. Missing more than 5 days, even for disability reasons, means you will need to drop the class and take it at another time. Accommodations cannot be granted retroactively, so do not wait until you have missed class to visit SSD.

For more information, contact the Services for Students with disabilities at 471-6259 (voice) or 232-2937 (video phone).

Canvas

In this class, I use Canvas – a web-based course management system with password-protected access to distribute course materials, communicate online, and post grades. Please email me directly, at renita.coleman@austin.utexas.edu, rather than through Canvas. The schedule is subject to change and with it, the readings. You are responsible for keeping up with the latest schedule, readings, and due dates by checking the schedule posted on Canvas. I send announcements of changes, so keep your email updated and your inbox relatively open. Your failure to receive notice of changes is not a reason for exceptions; you are responsible for checking Canvas for updates. You can find support in using Canvas at the ITS Help Desk at 475-9400 Monday through Friday 8 a.m. to 6 p.m.

SCHEDULE

Date	Topic	Readings	Assignments
<i>Week 1</i>			
Jan. 16	Snow day		
Jan. 18	Syllabus day!		Due Jan. 25: Three ideas for an experiment you would like to conduct. Clear and concise statement of the problem, why it is important to scholars, practitioners, society. 250 words per idea.
<i>Week 2</i>			
Jan. 23	Cause & Effect	Coleman Ch. 1; Bausell Intro & Ch.1.	

Jan. 25	Workshop 3 ideas		Due Today: Three ideas. Due Feb. 1: Pick one idea, revise and expand it.
<i>Week 3</i>			
Jan. 30	History of Experimentation	Coleman Ch. 2	
Feb. 1	Theory & Literature	Coleman Ch. 3 pages TBA; Bausell Ch. 2; Thorson, Experimental Methodology; Stevens, Negative Advertising.	Due Today: Thought paper on today's readings. Due Today: Revised and expanded idea paper. Due Feb. 15: Add 5 pages of theory and lit.
<i>Week 4</i>			
Feb. 6	Hypotheses & Research Questions	Coleman Ch. 3 pgs TBA; Bausell Ch. 3 & 4; Coleman, Effects of Visuals; Mutz, hypothesis development.	Due Today: Thought paper on today's readings. Due Feb. 22: Hypotheses and/or RQs for your study
Feb. 8	Types of Experiments	Coleman Ch. 4	
<i>Week 5</i>			
Feb. 13	External Validity	Coleman Ch. 5 Pgs TBA; Stoker, Exploring the Promise.	Due Feb 20: 1 page on the type of experiment you will use and how you will make it more externally valid
Feb. 15	Workshop theory, lit, Hs, RQs, type of experiment, external validity.		Due today: 5 pages of theory and lit.
<i>Week 6</i>			
Feb. 20	Internal Validity	Coleman Ch. 5 pgs TBA. Cronbach's alpha;	Due today: 2 pages on type of experiment, external validity
Feb. 22	Workshop Hs and RQs, validity		Due today: Hypotheses and/or RQs for your study
<i>Week 7</i>			

Feb. 27	Factorial Designs	Coleman Ch. 6 Pgs TBA; Bausell Ch. 6; Cho, gain loss (single factor);	Due today: Thought paper on today's readings
Mar. 1	Use of Subjects in Designs	Coleman Ch. 6 pgs TBA. Sonntag & Zizzo (between subjects; Landes, Kashima & Howe (within subjects).	Due March 6: 2 pages on the factorial design you will use and use of subjects in your study
<i>Week 8</i>			
Mar. 6	Workshop factorial designs, use of subjects		Due today: 2 pages on the design and use of subjects for your study
Mar. 8	Catch-up day		
<i>Week 9</i>			
Mar. 13	SPRING BREAK		
Mar. 15	SPRING BREAK		
<i>Week 10</i>			
Mar. 20	Random Assignment	Coleman Ch. 7; Bausell Ch. 5 Ho, Social Psychological (reports random assignment)	Due today: Thought paper on today's readings
Mar. 22	Workshop on randomizers		
<i>Week 11</i>			
Mar. 27	Sampling & Effect Sizes	Coleman Ch. 8; Courtright, Rationally Thinking; Lang, The Logic of; Basil, The Use of Students;	Due Today: Thought paper on the readings Due April 3: Write up sampling strategy and power analysis for your study.
Mar. 29	Workshop on G*Power, MTurk	Mayr et al. tutorial on G Power; O'Keefe, Post hoc power;	

		Cohen, Earth is round.	
<i>Week 12</i>			
Apr. 3	Stimuli	Coleman Ch. 9 Pgs. TBA; Arpan, Protest photos; Jin, Celebrities; Banks, racial ads; Holt, stereotypes; .	Due Today: Write up of sampling strategy and power analysis for your study. Due today: Thought paper on today's readings Due April 19: Draft of your stimuli; Final with write-up due April 24.
Apr. 5	Workshop creating stimuli		
<i>Week 13</i>			
Apr. 10	Manipulation checks	Coleman Ch 9 pgs TBA. Wu, options manip check;	Due April 17: Manipulation check for your study
Apr. 12	Workshop manipulation checks, stimuli		
<i>Week 14</i>			
Apr. 17	Instruments	Coleman Ch 10 Pgs. TBA; Coleman, Public Life; Grabe, Knowledge gaps; Coleman, Creativity (pre & post test); Aday; Posttest only; Coleman, Repetition Factor; Lazard, complexity (instrument write up)	Due Today: Manipulation check Due today: Thought paper on today's readings Due April 26: Instrument & write up for your study
Apr. 19	IRB & Pilot Studies	Coleman Ch. 11; Bausell Ch. 7 & 8	Due Today: Draft of your stimuli. Due Today: Thought paper on today's readings

			Due May 3: IRB proposal for manipulation check
<i>Week 15</i>			
Apr. 24	Writing up the Methods Section	APA Manual Ch. 2	<p>Due Today: Your stimuli and write-up final.</p> <p>Thought paper due today: Read any 2 experimental journal articles of your choice and analyze and critique the methods section write-up. Is there a pattern in the format (eg: Stimuli, participants, procedure, etc.). Is there enough information for you to replicate it? Is one article's methods section better written than the other? If so, why? The purpose of this thought paper is to examine closely how methods sections are written and think critically about them so you can do your own.</p>
Apr. 26	Analyzing Data & Interpreting Output (starring The Cheat Sheet)	Bausell Ch. 9; Lenton, Mates; Miller, Examining the Mediators; Schmierbach, A Little Bird.	<p>Due Today: Instrument and write-up</p> <p>Thought Paper due today: On today's readings</p>
<i>Week 16</i>			
May 1	Writing up results		<p>Reading & Thought paper due today: Any 2 experimental studies, analyze and critique the way the results are written up a la April 24</p>

			assignment.
May 3	Individual Presentations		Due Today: IRB proposal for manipulation check

** This schedule is subject to change. Check Canvas for the latest updates.*