

PSYC 6400: Research Design in Psychology

Course Syllabus
University of North Texas
Fall 2020

Course meeting information: Tuesdays, 5-7:50 PM on Zoom: <https://unt.zoom.us/j/92076964893>; Meeting ID: 920 7696 4893; One tap mobile: +13462487799,,92076964893# US (Houston)

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Office Hours: By appointment

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Course Descriptions & Objectives

This course provides an advanced overview of critical topics related to developing and conducting psychology research, as well as the procedures of proposing and publishing an empirical study. The main purpose of this course is to assist psychology graduate students in carrying out and evaluating high quality research. Particular attention will be focused on various types of research designs for quantitative and qualitative research commonly used in the field, such as: threats to internal validity and methodological issues, research design, power calculations, open science methods, the academic publication process, addressing white supremacy in psychology methods, ethical considerations, and data analysis strategies.

Students who successfully complete this course will:

1. Gain in-depth knowledge of various types of quantitative and qualitative research designs
2. Acquire adequate proficiency in threats to internal validity and strategies for mitigating them
3. Demonstrate solid familiarity of analytical methods appropriate for different research questions
4. Understand how to implement open science methods in psychology
5. Advance their understanding in APA-formatting and publication process
6. Develop a research proposal individually

Recommended Textbooks (available at UNT library):

- Shadish, Cook, & Campbell (2001). *Experimental and quasi-experimental designs for generalized causal inference*. Cengage Learning: Boston, MA.
- American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). Washington, DC: American Psychological Association.

Additional Readings:

Additional required readings relevant to the lectures are listed below in the course schedule and will be posted to Canvas. Students are expected to read assigned articles for each week prior to coming to class.

Expectations:

This is an advanced graduate course with lecture/seminar course and the most essential expectation is for you to attend class every week and actively participate in the learning process. A substantial portion of the learning of the course content will be acquired through your readings, in-class discussion, presentations led by students, and in-class activities. The methods of teaching for this class will include lecture, in-class activities and discussions, brief homework assignments, and student presentations. Students are expected to complete the reading assignments prior to coming to class and be prepared to discuss the reading contents and their insights with others in class. This course will be web-assisted, through the use of the Canvas system available at UNT.

Course Structure Changes Due to COVID-19

Due to COVID-19, our course will be held on Zoom via synchronous lectures. All lectures will be recorded and uploaded to Canvas in case you are unable to attend the live session. Class periods will be structured in the following way:

- We will meet for the first 1.5-2 hours of our class (~5-7pm), which will involve a combination of lectures, videos, discussion, and breakout activities related to the topic that week.
- During the last portion of class, we will disperse, and you will have a chance to work on that week's assignment during class time and/or your final research project.

Also, I acknowledge we are all facing additional stressors that can make it hard to focus. Your priority should be maintaining your health, well-being, and safety—not this class. If you need accommodations at any point, please let me know. I will be flexible with course grading and expectations.

Course Assignments

Research Proposal Drafts (50 pts total)

The major requirement of this course is for students to complete individual research proposals. Students who have not proposed their master's thesis are strongly encouraged to use this assignment to develop a draft for their degree-required research proposal. In this case, students should obtain the approval from the main research advisor(s) on their research ideas and research questions. Those who have completed their master's thesis proposal may generate a new research project (e.g., for a potential manuscript submission). The general guideline for the final proposal length is 4-5 pages. The expected length includes the following components:

- Abstract
- Introduction & brief literature review
- Research questions (including pre-registration)
- Explicitly stated hypotheses
- Method (participants, procedure, measures)
- Power analysis
- Proposed data analyses
- Ethical considerations
- The final proposal should also include a references section, as well as appendices if applicable
- The proposal, including references, should be in APA 7th edition style

To assist students in completing the proposal, this assignment is divided into two relevant smaller projects, listed below. I will provide feedback at each stage to allow for revisions before the final proposal is due at the end of the course:

- Pre-registration of research questions and draft of introduction section with references of relevant studies (25 points)
- Draft of methods (procedure, participants, power analyses, measures), proposed data analyses, and ethical considerations (25 points)

Final Research Proposal (75 points)

After the completion of each of these drafts, you will be given the opportunity to revise based on my feedback and before submitting the final proposal. The final proposal will include all components of the research proposal listed above.

In-class Presentation of Research Proposal (25 points)

At the end of the course, you will give a very brief (5-10 minute) presentation on your research proposal during class. Your presentation PowerPoint should consist of only 5 slides:

- 1) Background
- 2) Hypotheses
- 3) Participants and Power Analysis
- 4) Measures and Procedure
- 5) Planned Analyses and Anticipated Results

In-class activities / homework assignments (100 pts)

We will reinforce the lectures and assigned readings with a brief homework assignment that can be completed during the latter portion of the class period or on your own time. You will be expected to participate in these activities and submit your work on Canvas. Assignments will be brief and should each take <1 hour to complete. Each of these will be worth 10 points. Each assignment will be due the Monday before the next class period by 11:59pm. For example, when we cover Open Science during the class period on Tuesday Sept. 1, the associated pre-registration assignment will be due on Canvas by Monday, Sept. 8th at 11:59pm.

Grading:

Course component	Points
Research proposal pre-registration and introduction draft	25 points
Research proposal methods draft	25 points
Final version of the full research proposal	75 points
Research presentation	25 points
Homework assignments / in class activities	100 points
TOTAL	250 points

The following grading scale will be applied for determining final grades:

- A = 225 and above
- B = 200-224
- C = 175-199
- D = 150-174
- F = Below 150

SPOT STATEMENT

The Student Perceptions of Teaching (SPOT) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in hearing your feedback to help me continually improve my teaching.

STUDENT BEHAVIOR IN THE CLASSROOM

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Center for Student Rights and Responsibilities to consider whether the student's conduct violated the Code of Student Conduct. The university's expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at www.unt.edu/csrr

MAKE-UP AND INCOMPLETE POLICY

Course incompletes will only be given if the only remaining requirement is completion of the final exam. An incomplete grade would need to be arranged prior to the final exam and would require approval of the instructor based upon a substantial excuse.

ACADEMIC INTEGRITY / MISCONDUCT

Students are reminded that academic misconduct will not be tolerated. For example: (a) copying another student's work, in part or in whole; (b) unauthorized communication to obtain information about a test(s); (c) using unauthorized material during a test; (d) handing in any work product that is not your own; (e) signing someone else's name; (f) failing to give credit to the intellectual property of another in any written work (including, but not limited to, plagiarizing). Identification of academic dishonesty in this class can result in penalties including: additional work, a failing grade for the assignment or class, a grade being reduced or changed, and referral to the Dean of Students. The APA publication manual and material on the UNT Center for Student Rights and Responsibilities webpage (www.unt.edu/csrr) can help you understand and avoid plagiarism.

ACCOMMODATIONS

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see the Office of Disability Accommodation website at <http://www.unt.edu/oda>. You may also contact them by phone at 940.565.4323.

Final Note

This syllabus does not constitute a contract and the plans for this course may be modified during the semester. The instructor, the Department of Psychology, and the College of Arts and Sciences reserve the right to modify, amend, or change the syllabus (course requirements, grading policy, etc.) as the curriculum and/or programs require(s).

Recommended Readings (in alphabetical order)

- American Psychological Association (2019). APA Guidelines on Race and Ethnicity in Psychology: Promoting Responsiveness and Equity. <https://www.apa.org/about/policy/guidelines-race-ethnicity.pdf>
- Carter, R. T., Johnson, V. E., Kirkinis, K., Roberson, K., Muchow, C., & Galgay, C. (2019). A meta-analytic review of racial discrimination: Relationships to health and culture. *Race and Social Problems*, 11(1), 15-32.
- Chambers, C. (2017). *The seven deadly sins of psychology: A manifesto for reforming the culture of scientific practice*. Princeton University Press: Princeton, NJ.
<https://iii.library.unt.edu/record=b6562546~S12>
- Clark, L. A., & Watson, D. (2019). Constructing validity: New developments in creating objective measuring instruments. *Psychological Assessment*, 31(12), 1412.
- Fallon, M. (2018). Writing quantitative empirical manuscripts with rigor and flair (yes, it's possible). *Psi Chi Journal of Psychological Research*, 23(3).
- Flake, J. K., & Fried, E. I. (2019, January 17). Measurement schmeasurement: Questionable measurement practices and how to avoid them. <https://doi.org/10.31234/osf.io/hs7wm>
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, 33(2-3), 61-83.
- Kathawalla, U., Silverstein, P., & Syed, M. (2020, May 8). Easing into open science: A guide for graduate students and their advisors. <https://doi.org/10.31234/osf.io/vzjdp>
- Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: A practical primer for t-tests and ANOVAs. *Frontiers in Psychology*, 4, 863.
- Martin-Romero, M. Y., & Francis, L. A. (2020). Youth involvement in food preparation practices at home: A multi-method exploration of Latinx youth experiences and perspectives. *Appetite*, 144, 104439.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Prisma Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Med*, 6(7), e1000097.
- Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. *Science*, 349(6251), aac4716.
- Rosenfeld, R. M. (2010). How to review journal manuscripts. *Otolaryngology-Head and Neck Surgery*, 142(4), 472-486.
- Siddaway, A. P., Wood, A. M., & Hedges, L. V. (2019). How to do a systematic review: A best practice guide for conducting and reporting narrative reviews, meta-analyses, and meta-syntheses. *Annual Review of Psychology*, 70, 747-770.
- Vandenbroucke, J. P., & Pearce, N. (2018). From ideas to studies: How to get ideas and sharpen them into research questions. *Clinical Epidemiology*, 10, 253.
- Zuberi, T., & Bonilla-Silva, E. (Eds.). (2008). *White logic, white methods: Racism and methodology*. Rowman & Littlefield Publishers.
<https://libproxy.library.unt.edu:2160/lib/unt/detail.action?docID=1343788>

Course Schedule *(subject to modification)*

Date	Topic	Recommended Readings	In-Class Activity / Homework Assignments (submit on Canvas)	Portion of final project due (submit on Canvas)
8/25	1. Course Overview and Overview of Methods in Psychology	-Shadish, Cook, & Campbell Chapter 1 -Vandenbroucke 2018	Developing good research questions	
9/1	2. Open Science Methods	-Chambers 2017, Chapter 1 -Kathawalla 2020 -Open Science Collaboration 2015	OSF account setup and draft pre-registration	
9/8	3. Threats to Internal Validity	- Shadish, Cook, & Campbell Chapter 2	Identify threats to validity in a published study	
9/15	4. Types of Research Designs: Experimental and Quasi-Experimental	-Shadish, Cook, & Campbell Chapter 8		
9/22	5. Types of Research Designs: Correlational/ Observational	-Shadish, Cook, & Campbell Chapters 4 & 5	Design your own correlational or experimental study	
9/29	6. Systematic Reviews and Meta-Analyses	-Shadish, Cook, & Campbell Chapter 13 -Siddaway 2019 -Moher 2009 (PRISMA guidelines) -Carter 2019	Practice a systematic review search	
10/6	7. Sampling & External Validity	-Shadish, Cook, & Campbell Chapter 3		Pre-registration and intro of paper draft
10/13	8. Effect Size & Power: Methods to Increase Power and Statistical Conclusion Validity	-Shadish, Cook, & Campbell Chapter 2 -Lakens 2013	Calculate power for using G*Power or R	
10/20	9. Ethical & IRB Considerations	-Shadish, Cook, & Campbell Chapter 9	Create an informed consent document	
10/27	10. Qualitative Research Methods <i>*Guest lecture: Dr. Michelle Martin-Romero*</i>	-Martin-Romero & Francis 2020		
11/3	11. Increasing Diverse Perspectives in Psychology: Dismantling White Supremacy	-Henrich et al., 2010 -APA 2019 -Zuberi & Bonilla-Silva Chapters 1 & 2	Increasing diversity in your research	Methods of paper draft

(schedule continued on next page)

Date	Topic	Recommended Readings	In-Class Activity / Homework Assignments (submit on Canvas)	Portion of final project due (submit on Canvas)
11/10	12. Scale Development Research & Construct Validity (+ Qualtrics and RedCap)	-Flake & Fried 2019 -Clark & Watson 2019	Evaluate a published scale and recreate in Qualtrics or RedCap	
11/17	13. Academic Writing, Submission and Review Process	-Fallon 2018 -Rosenfeld 2010	Critique a manuscript	
11/24	14. <i>Present Research Proposals</i>			In-class presentations
12/1	15. <i>Present Research Proposals</i>			In-class presentations
12/8	NO CLASS			FINAL PAPER DUE