

MMC 6936 (Section 4004): Experimental Design and Analysis
Spring 2024

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Meeting Times: Thu. 8.30 am – 11.30 am Location TBA

Office Hours: By appointment.

Course Overview: This graduate seminar is intended to introduce you to the fundamental nuances of the experimental method. The guiding principle for this class is that there is a considerable distinction between methodology and statistics. As such, the focus is on conceptual principles underlying experimental research, with particular emphasis on terminology germane to this method. We will discuss the most important types of experimental designs and explore those statistical techniques that are commonly employed in analysis of experimental data.

Course Objectives: At the conclusion of the course, you should be able to:

- Conceptualize and operationalize variables in a research question
- Distinguish between and among different types of reliability and validity
- Comprehend the different types of experimental designs
- Have a fundamental understanding of common statistical techniques
- Critically analyze and evaluate published experimental research
- Propose a theoretically-driven original research project from scratch
- Gain an appreciation for programs of research

Textbook (not required): In the past, I have used: Keppel, G., & Wickens, T. D. (2004). *Design and analysis: A researcher's handbook* (4th ed.). Upper Saddle River, NJ: Pearson-Prentice Hall. I don't think it is as useful as I envisaged it to be. However, it is a good resource, especially to get a sense of the mathematics of experimental design so

you can consider it for the future. For this semester, I will just hand out readings for several class sessions.

Research Project: In order for you to engage in the experimental tradition, you will be required to produce a document that will propose in detail a project that you design and conduct. The project will require you to demonstrate a rigorous understanding of experimental methods and to propose an original research question related to your own research interests. Theoretical rigor is an essential component of the proposal. More detailed guidelines will be distributed in class. The research project accounts for 40 percent of the course grade, with each group comprising 1-4 students.

Annotated Bibliography: In order to get you started on your project, an annotated bibliography and outline will be collected from you on February 15. This bibliography should provide a brief overview of the concepts/variables that are germane to your research topic, followed by a statement of your essential research question. The bibliography *per se* should include at least 8 scholarly journal articles related to your topic of research, along with a paragraph summary of how the article advances conceptual and methodological understanding of your proposed study. Please note that your summaries should NOT simply be copied from the abstract of the articles. Also, your paragraph summaries need to be in your own words and bereft of direct quotations. It is essential that you thoroughly read the articles that you are using to develop a complete understanding of how they fit in with your proposal. This assignment accounts for 15 percent of the course grade.

Paper Critique: This exercise is designed to give you an opportunity to critically analyze and evaluate experimental research. The specific studies/papers to be critiqued will be handed out mid-semester and more detailed guidelines will be spelt out at that time. This exercise will account for 15 percent of the final grade in the course.

Theory-to-Method Assignment: This assignment is designed to help you “reverse engineer” a theoretical framework(s), based on a given methods section. I will provide a “methods” section with details of an experiment, including design, variables and measures of interest, description of the procedure, and any other salient information. With this information at your disposal, you are required to come up with the front end of the manuscript, so to say. This will include the rationale for study as well as the literature review, hypotheses, etc. This assignment accounts for 15 percent of your grade and more details will be spelt out in the assignment handout.

Short Assignments: A variety of short assignments will be distributed during the course of the semester. The assignments will vary in level of difficulty, ranging from routine to

challenging. Given the nature of the class, some of these will be conceptual while some others may require deployment of statistical techniques. More details will be spelt out when individual assignments are handed out. The assignments account for 15 percent of the course grade.

Attendance: Attendance is mandatory for every class meeting. If a student needs to miss a class, prior permission must be obtained from the instructor.

Schedule: The schedule includes the main topics for each week. I will add the list of speakers as and when I hear their confirmation. For any assigned readings for a particular week, kindly complete the assigned readings BEFORE coming to class.

Incompletes: Incompletes will not be granted except under previous agreement with the professor. To be considered for an incomplete, the student ***must*** 1) let the professor know in advance that they are seeking an incomplete, and 2) provide documentation to support the request.

Students Requiring Accommodations: Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluation: Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu/evals>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

Policy on Academic Integrity: Students are expected to conform to the Honor Code in all academic matters. For more information on the academic integrity and the honor code, please visit the following URL: <https://www.dso.ufl.edu/sccr/seminars-modules/academic-integrity-module>, or feel free to speak to me or someone at the Office of the Dean of Students.

University Honesty Policy & Collaboration: High level questions, design issues, and stimulus materials can be discussed. Not allowed in this course include the following: 1)

plagiarism (misrepresenting others' ideas as your own, and 2) work deemed offensive to others.

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor in this class.

Student Privacy: There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

Campus Resources:

Health and Wellness

U Matter, We Care:

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS): Student Health Care Center, 392-1161.

University Police Department: 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

Commitment to a safe and inclusive learning environment: The College of Journalism and Communications values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination.

It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:
Your academic advisor or Graduate Program Coordinator

Sexual Discrimination, Harassment, Assault, or Violence: If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence, contact the Office of Title IX Compliance, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu

Note: Based on your input and our progress, I reserve the right to amend and change the syllabus, reading schedules, and grading events during the semester.

COURSE SCHEDULE

01/11	INTRODUCTION TO CLASS No assigned reading
01/18	CONCEPTUALIZATION AND HYPOTHESIS-TESTING
01/25	OPERATIONALIZATION AND MEASUREMENT
02/01	RELIABILITY AND VALIDITY
02/08	BETWEEN-SUBJECTS & WITHIN-SUBJECTS DESIGNS
02/15	FACTORIAL DESIGNS <i>Annotated Bibliography due</i>
02/22	PROJECT DAY <i>Initial Presentations of Project Proposals</i>
02/29	CREATIVITY IN EXPERIMENTAL DESIGNS

- 03/07 NON-RANDOMIZED DESIGNS; THREATS TO STUDY VALIDITY
- 03/21 PROJECT DAY
- 03/28 THE DATA COLLECTION PROCESS; INTRODUCTION TO DATA ANALYSIS
- 04/04 ANOVA & ANCOVA; MEDIATION & MODERATION
- 04/11 PROGRAMS OF RESEARCH; ETHICAL ISSUES
Theory-to-Method Assignment due on April 16
- 04/18 THE PUBLICATION PROCESS;
PROJECT PRESENTATIONS & WRAP UP
Paper Critique Assignment due on April 23

Note: Final research project paper due on May 3.*