



 **Edit**

CCJ 6741 – Research Design and Causal Inference Fall 2022

Professor: Dr. Brian Stults

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Office hours:

Monday 1:30-3:30 PM; Wednesday 10 AM - 12 PM

Course Objectives

This course provides a survey of research methods that are designed to draw causal inferences from experimental and observational data. A central theme of the course will be that the use of advanced statistical techniques to account for confounding influences, while often useful and sometimes necessary, is not a substitute for sound decisions made at the design stage of a research project. After completing the course, you will:

- have a solid understanding of the key components of research design;
- understand which research designs can be used to infer causation;
- know the factors to take into account when choosing a research design;
- be able to use Stata to employ the statistical techniques used in many of these research designs;
- become comfortable critiquing a variety of research designs.

Prerequisites

To take this course, you must have already completed, with a grade of B or better, CCJ 5705 (Research Methods), CCJ 5706 (Statistics I), and CCJ 5740 (Statistics II) (or their equivalents in other departments or universities).

Required Texts

- Murnane, Richard J., and John B. Willett. 2011. *Methods Matter*. NY: Oxford. ISBN: 9780199753864 [MW]
- Shadish, William R., Thomas D. Cook, and Donald T. Campbell. 2002. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Belmont, CA: Wadsworth. ISBN:9780395615560 [SCC]

- additional journal articles will be provided later in the semester



Grading

Your grade will be based on the following requirements:

- Research article summary and discussion leading

Certain weeks in the schedule are designated as presentation weeks. Each student will be required to present one empirical paper (provided later in the semester) during one of these weeks. The method used in each paper will be the one that we covered during the prior class meeting. The presentations will be informal (e.g. from your seat, no slides, no handouts), no longer than 10-15 minutes, and must include 3-4 discussion questions which will be posed to the class. This presentation will make up 15% of your grade.

- Discussion participation

As with any graduate course, student attendance, preparation, and participation is essential. You are required to come to class having carefully read all of the assigned literature, and you must contribute to class discussions on a regular basis. Attendance and participation will make up 15% of your grade.

- Assignments

Throughout the semester we will have 4 assignments that will provide experience using Stata to apply some of the empirical methods that we discuss in class. You will be required to complete the analysis in Stata, provide a log of the Stata session, and provide an interpretation of your findings in a Word document or pdf. Each assignment will make up 10% of your grade for a total of 40%.

- Term paper

At the end of the semester, each student is required to submit a research proposal consisting of a research question, a brief literature review, and a comprehensive section on data and methods. Note that this is a proposal, so you will not present any empirical results. The substantive topic of the proposal is up to you, but the project that you propose must employ one of the research methods that we cover in the course. The paper must be of graduate student quality, about 10-12 pages double-spaced, and formatted in accordance with the standards of a major social science journal (e.g. Criminology, JRCD, JQ, SP, etc). Detailed instructions and guidelines will be provided later in the semester. The completed paper must be submitted on Canvas by the due date listed on Canvas. There will be no extensions or incompletes, except under the most extraordinary and unanticipated circumstances. The term paper will make up 30% of your grade.

Therefore, your grade for this course will be based on the following criteria:



Article presentation	15%
Attendance and participation	15%
Take-home assignments	40%
Term paper	30%

Letter grades will be assigned based on the following percentages:

A	93 to 100%	B	83 to <87%	C	73 to <77%	D	63 to <67%
A-	90 to <93%	B-	80 to <83%	C-	70 to <73%	D-	60 to <63%
B+	87 to <90%	C+	77 to <80%	D+	67 to <70%	F	<60%

Public Health Protocols

The CDC recommends that all individuals, even vaccinated individuals, wear proper and well-fitting masks in public indoor spaces, like classrooms, especially where social distancing is not possible and virus rates are high. The CDC assesses the infection rate in Leon County as High.

Florida is experiencing a surge of the Omicron BA.5 variant, the most easily transmissible Covid variant to date, which is able to evade previous immunity from infection and vaccination. It is a much more transmissible variant than the original virus, the Delta variant, or even the earlier Omicron variants. It can infect even vaccinated individuals and can be spread by them to others. It poses a special threat to members of the community with underlying health conditions and family members vulnerable to the virus. The best way to protect against serious illness is to be fully vaccinated, but not everyone among us can be.

University Attendance Policy

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Academic Honor Policy

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and...[to] strive for personal and institutional integrity at Florida State

University." (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/Academics/Academic-Honor-Policy>.)



Americans with Disabilities Act

Students with disabilities needing academic accommodation should:

- (1) register with and provide documentation to the Office of Accessibility Services; and
- (2) request a letter from the Office of Accessibility Services to be sent to the instructor indicating the need for accommodation and what type; and
- (3) meet (in person, via phone, email, skype, zoom, etc...) with each instructor to whom a letter of accommodation was sent to review approved accommodations.

This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the **Office of Accessibility Services** (<https://dsst.fsu.edu/oas/>) at:

874 Traditions Way 108 Student Services Building
 Florida State University
 Tallahassee, FL 32306-4167


(850) 644-9566 (voice)
 (850) 644-8504 (TDD)
oas@fsu.edu (<mailto:oas@fsu.edu>)

Course Schedule*

Week	Topic	Chapters	
		MW	SCC
08/24	Introduction and Overview		
08/31	Research Designs and Causation	1-3	1
09/07	Experimental Designs	4-5	2-3 & 8
09/14	Statistical Power and Natural Experiments	6 & 8	
09/21	Quasi-Experiments (Article presentation week)		4-5











09/28	Causation, Confounders, and Panel Data Designs (Article presentation week)	7	
10/05	Interrupted Time Series – Part 1 (Article presentation week) Assignment #1 due by start of class		6
10/12	Interrupted Times Series - Part 2		
10/19	Regression Discontinuity - Part 1 (Article presentation week) Assignment #2 due by start of class	9	7
10/26	Regression Discontinuity - Part 2		
11/02	Instrumental Variables (Article presentation week)	10	
11/09	Propensity Score Matching – Part 1 (Article presentation week) Assignment #3 due by start of class	12	
11/16	NO CLASS - ASC week		
11/23	NO CLASS - Thanksgiving week		
11/30	Propensity Score Matching – Part 2		

	(Article presentation week)		
12/07	Assignment #4 due by Thursday 12/08 Term paper due by Thursday 12/08		

* Except for changes that substantially affect implementation of grading, this syllabus is a guide for the course and is subject to change with advance notice.

Course Summary:

Date	Details	Due
Wed Oct 5, 2022	 Assignment 1 https://fsu.instructure.com/courses/209743/assignments/1719373	due by 2pm
	 Assignment 1 Copy https://fsu.instructure.com/courses/209743/assignments/1719652	due by 2pm
Wed Oct 19, 2022	 Assignment 2 https://fsu.instructure.com/courses/209743/assignments/1719374	due by 2pm
Wed Nov 9, 2022	 Assignment 3 https://fsu.instructure.com/courses/209743/assignments/1719375	due by 2pm
Thu Dec 8, 2022	 Assignment 4 https://fsu.instructure.com/courses/209743/assignments/1719376	due by 11:59pm
	 Term paper https://fsu.instructure.com/courses/209743/assignments/1719379	due by 11:59pm
	 Attendance and participation https://fsu.instructure.com/courses/209743/assignments/1719377	
	 Leading discussion https://fsu.instructure.com/courses/209743/assignments/1719378	