RUTGERS
School of Public Affairs
and Administration | Newark

Applied Research Design
20:834:562:TP
Syllabus, Summer 2021
Course Delivery: Fully Online

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*This syllabus (updated on May 28, 2021) is subject to changes—please check Canvas for the latest version

COURSE OVERVIEW

Building on the skills of data analysis and statistical inference learned in Applied Statistics (561), this course exposes students to issues central to understanding and applying research-based evidence to public affairs and administration. These issues include the use of theory or models, measurement concepts and methods, qualitative and quantitative modes of observation, identifying causes, the logic of control variables, and the design of experiments and quasi-experiments. The emphasis is on learning these ideas through practice with many different examples of real-world research and empirical evidence.

COURSE OBJECTIVES

Upon completion of the course, students will be able to:

- ❖ Understand the key concepts related to quantitative and qualitative research
- ❖ State a research question or problem related to public service or policy
- ❖ Articulate a theory and model of a real program or intervention, including identification of the key variables and relationships
- ❖ Identify the appropriate empirical methods to examine the research question
- ❖ Design a survey—including a sampling plan and questionnaire—to gather information on a real population of interest
- ❖ Analyze real data to examine a possible cause-effect relationship with policy implications

COURSE TEXTBOOK

Remler, Dahlia K. and Gregg G. Van Ryzin. 2015. *Research Methods in Practice*. 2nd Ed. SAGE Publications.

If you are using the first (2011) edition of the textbook, here is how the chapters line up:

Research Methods in Practice 2e (2015)	*Research Methods in Practice* (2011)
Chapters 1-7	Chapters 1-7

Chapters 8-9	Chapter 8
Chapter 10	Chapter 9
Chapter 11	Chapter 10
Chapter 12-13	Chapter 11
Chapter 14-17	Chapter 12-15

❖ The reading materials of the first three weeks (including the textbook chapters) will be made available on Canvas.
❖ Reading materials that are not from the textbook will be made available on Canvas.
❖ Please contact the instructor if you face any difficulties in getting the textbook.

COURSE SOFTWARE

Excel will be mostly used for the statistical part of this course. Students can also use Stata, SPSS, or other statistical packages if they prefer. Students can remote access Stata/SPSS for free at the Rutgers software portal (**https://software.rutgers.edu/)**

ONLINE COURSE SITE

This is a fully online course. You will need your Rutgers NetID username and password to log into the course management system (Canvas).

Technical Problem Resolution Procedure

If you are having login problems or any other technical issues, please contact:
help@canvas.rutgers.edu

COURSE REQUIREMENTS AND EVALUATION

This a graduate-level course and students are expected to complete all assignments and quizzes, study the assigned textbooks and other materials carefully, and participate actively in weekly discussions. Grades will be based on the following:

Assignment	Description	Allocation
Discussions	Discussion questions will be given for most of the weeks. These questions are mainly related to different examples of real-world research and empirical evidence. The deadline for posting responses to the discussion questions is **23:59 on Saturday**. There are **ten** sets of weekly discussion. Students can get up to 2% grade points each week by responding to	**10%**

	the questions. They can get up to 10% regular grade points, and 10% extra credit in total. The discussion questions for each week can be found in "Modules" and "Discussions".	
Quizzes (Open Book)	Brief quizzes will be given for most weeks on the readings, including both assigned articles and textbook chapters. There are **ten** quizzes in total, and each quiz contains **four** multiple choice questions. The deadline for answering the quizzes is **23:59 on Sunday**. Assigned readings and quizzes for each week can be found in "Modules". Quizzes can also be found in "Assignments".	**20%**
Projects	Students must complete and submit **three** projects. Be sure to read all instructions carefully and complete all parts of the project. Students may consult with each other on assignments, but the work handed in must be the student's own, original work. Projects can be found in "Assignments".	**50%** **(15%+15%+20%)**
Final Paper	The final paper involves a comparison of two published studies on a topic in your field or of interest to you. You will need to find the appropriate studies, read them carefully, and compare and contrast the studies in terms of their methodology and findings using concepts from the course. The Final Paper can be found in "Assignments".	**20%**
Extra Credit	Students can earn extra credit by participating in online discussions. Other opportunities for earning extra credits may be announced throughout the semester.	**10%**

❖ In Week 1, students are expected to post a short bio and introduce themselves to the other students. Failure to do so may result in a mark deduction (1%).
❖ Students are recommended to make an appointment with the instructor to discuss their projects/ papers prior to submission.

❖ The **grading rubrics** can be found in "Rubrics" on Canvas.

Late Submission Policy

Unless otherwise noted, all written assignments, quizzes, and discussions are due at the time and date listed in the syllabus and the "Assignments" page. Unapproved late submission will result in points taken off. In particular:

❖ **Discussions & Quizzes**: Late submissions will not be graded (unless a prior approval is granted).
❖ **Projects & Final Papers**: 2 points will be deduced each day for late submission (unless a prior approval is granted).

If you experience an unavoidable personal situation that prevents you from completing work on time, please contact the instructor at least 3 days (for discussions and quizzes) or 1 week (for projects and final paper) prior to the submission date. An urgent application will be considered by individual instance.

Revising and Resubmitting Assignments

Students who receive a grade of less than 75% (B) for an assignment AND who submit the original assignment on time will be given an opportunity to revise and resubmit the assignment. A change of grade will be made only for assignments that demonstrate a significant improvement through the student's own effort (making only minor corrections or edits in response to the professor's edits to the initial assignment will not be sufficient for a change of grade). Resubmissions must be made within one week after the initial graded assignment has been returned to the student.

Grade Appeal & Grade Change

Students may submit a written appeal within 7 days after receiving their grade. Re-evaluation will be considered by individual instance.

GRADE POLICY

Final grades will be assigned according to the following scale:

A	90% or above	B+	85% - <90%	B	80% - <85%
C+	70% - <80%	C	60% - <70%	F	Less than 60%

Incompletes and Grade Changes

Students are expected to complete all of their assignments and other requirements by the official end of the term. Grades will be based on work received by the instructor at this time. A grade of

incomplete (IN) will only be given to students with legitimate medical or family emergencies who have discussed their situation with the instructor prior to the end of the term. Incomplete work submitted for a change of grade after the term will be accepted at the discretion of the instructor and only with prior arrangement and agreement.

COURSE POLICIES

Attendance and Participation Policy

There are no on-campus meetings for this class. You are expected to login to the course at least three times per week to ensure you do not miss pertinent postings, messages, or announcements.

It is University policy (University Regulation on Attendance, Book 2, 2.47B, formerly 60.14f) to excuse without penalty students who are absent from class because of religious observance, and to allow the make-up of work missed because of such absence. Examinations and special required out-of-class activities shall ordinarily not be scheduled on those days when religiously observant students refrain from participating in secular activities. Absences for reasons of religious obligation shall not be counted for purposes of reporting. Students are advised to provide timely notification to instructors about necessary absences for religious observances and are responsible for making up the work or exams according to an agreed-upon schedule.

Dropping the Course

In order to withdraw from a course, it is not sufficient to stop posting assignments or contributing to the Discussion Board. In accord with university policy, students wishing to withdraw from a course must do so formally through the Registrar's office. It is the student's responsibility to complete all forms. If this is not done, the instructor must assign a grade of F at the end of the semester.

Required equipment / materials / technological skills

* ❖ Computer, Internet access, webcam with microphone OR headphones with microphone
* ❖ Software that can save a file in the format of Microsoft Word, rtf, or PDF
* ❖ Ability to utilize Canvas

Academic Integrity

Students at Rutgers University are expected to maintain the highest ethical standards. The consequences of academic dishonesty, including cheating and plagiarism, are very serious. Rutgers' academic integrity policy is at http://academicintegrity.rutgers.edu/.

Multimedia presentations about academic integrity may be found at:

* ❖ http://www.scc.rutgers.edu/douglass/sal/plagiarism/intro.html
* ❖ http://wps.prenhall.com/hss_understand_plagiarism_1/0,6622,427064-,00.html

Serving Students with Disabilities

In compliance with the Americans with Disabilities Act (A.D.A.), students who require special accommodations due to a disability to properly execute coursework must do so through the Rutgers Disabilities Services Office. See http://disabilityservices.rutgers.edu for details.

Style Manual for Writing

All references should follow the 6th edition of the Publication Manual of the American Psychological Association (APA). There are some online resources for APA formatting. You may want to check the URLs listed below for models on format.

❖ http://owl.english.purdue.edu/owl/resource/560/01/
❖ http://citationmachine.net/index2.php?reqstyleid=2
❖ http://www.psychwww.com/resource/apacrib.htm

Other Useful Resources

Rutgers University Libraries - Many library resources are available online. Assistance is available through phone, email and chat.

❖ Online resources: http://www.youtube.com/watch?v=iJvFVqjz8Dg
❖ Introduction: http://libguides.rutgers.edu/intro

Plangere Writing Center

The Center offers tutoring for students who wish to improve their writing skills.

❖ http://plangere.rutgers.edu/home

COURSE MODULES (WEEKS)

Each module (week) begins on Monday (Day 1) and ends on Sunday (Day 7). Dates for the summer session are indicated below:

Week 1: Introduction and Overview	
	(Jun 1 to Jun 6, 2021)
Description	❖ This module will give you an overview of the course and introduce you to research and the scientific method
Readings	❖ Remler & Van Ryzin, "Chapter 1: Research in the Real World"
Activities	❖ Introduce yourself to the class ❖ Review the syllabus and requirements

Week 2: Theory and Models	
	(Jun 7 to Jun 13, 2021)
Description	❖ This module will illustrate the important role of theory and cover some fundamental concepts of research. It will also show you how to use a logic model to represent a program or intervention
Readings	❖ Remler & Van Ryzin, Chapter 2 "Theory, Modules, and Research Questions" ❖ CDC. An Approach for Monitoring and Evaluating Community Mitigation Strategies for COVID-19
Activities	❖ Discussion (1) ❖ Quiz (1) ❖ Project (1) - Available

Week 3: Qualitative Research	
	(Jun 14 to Jun 20, 2021)
Description	❖ This module will introduce you to qualitative research, explain how it differs from quantitative research, and demonstrate the usefulness of qualitative approaches to social and policy research
Readings	❖ Remler & Van Ryzin, Chapter 3 "Qualitative Research" ❖ LeCouteur, E. (2004). *New York's disaster relief Medicaid: What happened when it ended? A Focus Group Study.* New York: The Commonwealth Fund
Activities	❖ Discussion (2) ❖ Quiz (2) ❖ Project (1) - Ongoing

Week 4: **Measurement**	
	(Jun 21 to Jun 27, 2021)
Description	❖ This module will explain how to think about and develop measurements of important outcomes, and how such measurements can be evaluated
Readings	❖ Remler & Van Ryzin, Chapter 4 "Measurement" ❖ Brener, N. et al. (2003). Reliability and validity of self-reported height and weight among high school students. *Journal of Adolescent Health* 32. 281-287.
Activities	❖ Discussion (3) ❖ Quiz (3) ❖ Project (1) – Due on Jun 27
Week 5: **Sampling**	
	(Jun 28 to Jul 4, 2021)
Description	• This module will explain the ideas and methods involved in sampling people or units for a study, including the important methods of random (probability) sampling.
Readings	❖ Remler & Van Ryzin, Chapter 5 "Sampling" ❖ Kishore, N., Marqués, D., Mahmud, A., Kiang, M. V., Rodriguez, I., Fuller, A., ... & Maas, L. (2018). Mortality in puerto rico after hurricane maria. *New England Journal of Medicine*, 379(2), 162-170.
Activities	❖ Discussion (4) ❖ Quiz (4) ❖ Project (2) – Available
Week 6: Survey Research	
	(Jul 5 to Jul 11, 2021)
Description	❖ This module will explain the various methods and modes of survey research, the most widely used approach for gathering primary data on people and organizations.
Readings	❖ Remler & Van Ryzin, Chapter 7 "Surveys and Other Primary Data" ❖ Pew Research Center, June, 2020, "Two-Thirds of Americans Think Government Should Do More on Climate"
Activities	❖ Discussion (5) ❖ Quiz (5) ❖ Project (2) – Ongoing

Week 7: Secondary Data		
		(Jul 12 to Jul 18, 2021)
Description	• This module will cover the various forms and sources of secondary (existing) data, which are increasingly available and useful for public policy research.	
Readings	❖ Remler & Van Ryzin, Chapter 6 "Secondary Data" ❖ CDC, COVID-19 Community Vulnerability Index (CCVI)	
Activities	❖ Discussion (6) ❖ Quiz (6) ❖ Project (2) – Due on Jul 18	

Week 8: Causation		
		(Jul 19 to Jul 25, 2021)
Description	❖ This module will show why correlation does not imply causation, as well as introduce key concepts for thinking about and probing important cause-effect relationships	
Readings	❖ Remler & Van Ryzin, Chapter 11 "Causation" ❖ "Strongest Evidence Yet Shows Air Pollution Kills," by Susan Cosier (Scientific American, July 29, 2020)	
Activities	❖ Discussion (7) ❖ Quiz (7) ❖ Project (3) – Available	

Week 9: Observational Studies		
		(Jul 26 to Aug1, 2021)
Description	❖ This module will cover observational studies, the mostly widely used form of evidence in most fields of public policy and practice, and show how control variables can help fortify an observational study.	
Readings	❖ Remler & Van Ryzin, Chapter 12 "Observational Studies" ❖ Bohte, J. (2004) Examining the Impact of Charter Schools on Performance in Traditional Public Schools. *Policy Studies Journal*, 32 (: 501–520.	
Activities	❖ Discussion (8) ❖ Quiz (8) ❖ Project (3) – Ongoing	

Week 10: Regression Analysis of Causal Effects	
	(Aug 2 to Aug 8, 2021)
Description	❖ This module will go into some of the statistical details of implementing the control variables strategy, with a focus on understanding and interpreting multiple regression
Readings	❖ Remler & Van Ryzin, Chapter 13 "Using Regression to Estimate Causal Effects". ❖ Review Remler & Van Ryzin, Chapters 8–10 (as needed)
Activities	❖ Discussion (9) ❖ Quiz (9) ❖ Project (3) – Ongoing

Week 11: Randomized Experiments	
	(Aug 9 to Aug 15, 2021)
Description	❖ This module will introduce you to the randomized experiment, the 'gold standard' for demonstrating cause-effect relationships. You'll learn about strengths, various types, and limitations of randomized experiments
Readings	❖ Remler & Van Ryzin, Chapter 14 "Randomized Experiments". ❖ Peyton, K., Sierra-Arévalo, M., & Rand, D. G. (2019). A field experiment on community policing and police legitimacy. *Proceedings of the National Academy of Sciences*, 116(40), 19894-19898
Activities	❖ Discussion (10) ❖ Quiz (10) ❖ Project (3) – Due on Aug 15

Week 12: Natural and Quasi Experiments	
	(Aug 16 to Aug 18, 2021)
Description	❖ This module will cover natural and quasi-experiments, studies that have many of the strengths of randomized experiments but often provide more feasible or ethical ways of studying real-world policies and programs.
Readings	❖ Remler & Van Ryzin, Chapter 15 "Natural and Quasi Experiments"
Activities	❖ Final paper – Due on Aug 18