PA 281: DISCOVERING WHAT WORKS IN HEALTH POLICY, Fall 2021

CREDITS: 3

CANVAS COURSE URL: https://canvas.wisc.edu/courses/273345/modules

COURSE DESIGNATIONS AND ATTRIBUTES: General

MEETING TIME AND LOCATION: Tuesday/Thursday 1-2:15pm, Social Science 6112.

INSTRUCTIONAL MODE: in-person

The credit standard for this course is met by an expectation of a total of 180 hours of student engagement with the course learning activities (at least 45 hours per credit), which include regularly scheduled instructor-student meeting times (120 minutes per week), reading, writing, problem sets, and other student work as described in the syllabus.

INSTRUCTOR: Professor Yang Wang

OFFICE HOURS: Wednesday 2:30 – 4:30pm via Zoom and by appointment

INSTRUCTOR EMAIL: ywang26@wisc.edu

COURSE DESCRIPTION
Does having health insurance make a person live longer? Does air pollution affect people’s health? Does drinking water with lead affect education outcomes? Assessing the causal effects of policies and practices is a fundamental goal of research in the social sciences. This course introduces the key conceptual and methodological tools used in public program evaluation, with an emphasis on understanding the forces that shape health and disease as well as various policy solutions.

Students will learn how to distinguish causation from correlation using counterfactual thinking. To that end, students will be introduced to the Potential Outcomes Framework. This framework for understanding cause and effect is widely used in economics and public policy and has recently begun to influence research in sociology, political science, education, and public health. We will explore a wide variety of experimental and quasi-experimental strategies used to estimate causal effects, including randomized experiments, matching, regression, instrumental variables, fixed effects, regression discontinuity, difference-in-differences, and synthetic control.
This course provides a non-technical introduction to the causal inference methods that are most salient to policymakers. Class meetings will typically be divided into lecture, student presentations, and group discussions. Questions and comments are highly encouraged throughout.

**PREREQUISITES:** None.

**COURSE LEARNING OUTCOMES**

After completing this course, students will be able to:

1) distinguish causal from correlational evidence in both general and academic texts;
2) identify relevant counterfactuals using the *Potential Outcomes Framework*;
3) interpret the external and internal validity of an estimated causal effect;
4) conceptually apply quasi-experimental methods to health policy issues; and
5) communicate the strengths and weaknesses of previous research into the causal effects of various health interventions.

This course will help students see how using counterfactual thinking to distinguish causation from correlation can impact how they see the world.

**TEXTBOOK AND OTHER RESOURCES**


We will also use readings that illustrate “real world” applications of the methods we learn in class in academic, government, and other contexts. All the readings are available online or will be made available on CANVAS (please check ‘Modules’, not ‘Files’ or other parts) or directly from me.

Required readings should be completed **before** we meet each week.

**COURSE ASSIGNMENTS AND GRADING**
All assignments are designed to hone evaluation skills and provide experience that will be useful on the job market. Course grades will be based on the following components and descriptions of some of these components will be given separately:

- Class attendance and participation (general participation + structured activities): 20%
- Group presentations: 10% * 2
- Attend at least two seminars/presentations on health policies on campus or at other universities (in-person or online) and write a one-page summary for each seminar/presentation you attend: 10%
- Homework: 10%
- Health policy briefing: 10%
- Final report and presentation: 20% + 10%

Grade Criteria: A >= 93%, AB >= 89%, B >= 80%, BC >= 75%, C >= 65%, D >= 55%, F < 55%

ATTENDANCE AND PARTICIPATION
Attendance is required for this class. Please email me if you cannot make it to the class for any reason. Class participation is an essential component of the course and is critical to your learning and that of your peers. You will be expected to read assigned materials prior to our class meetings and come prepared for discussions. In this way, lecture provides a second exposure to the material. I will not go over all the details in lecture but will highlight the important parts. Active participation (i.e., sharing your thoughts and listening to the thoughts of others) in structured, in-class activities such as group discussions, case studies, role plays, and debates is also important. You should also ask questions during lectures, as this will get you actively involved, generate discussion, and indicate which ideas and information you find interesting, important, or confusing. Regular class attendance is a necessary, but not sufficient condition for getting full credits in class attendance and participation.

COURSE WEBPAGE
We have a CANVAS webpage for this course. You can find most course materials there (please check ‘Modules’, not ‘Files’ or other parts), including the syllabus, readings, and so forth. You will also submit your assignments onto CANVAS course webpage, so please make effort to get familiar with how it works. You are responsible for accessing the course webpage on a regular basis.

PRIVACY OF STUDENT RECORDS & THE USE OF AUDIO RECORDED LECTURES STATEMENT
Lecture materials and recordings for this course are protected intellectual property at UW-Madison. Students in this course may use the materials and recordings for their personal use related to participation in this class. Students may also take notes solely for their personal use. If a lecture is not already recorded, you are not authorized to record my lectures without my permission unless you are considered by the university to be a qualified student with a disability requiring accommodation. [Regent Policy Document 4-1] Students may not copy or have lecture materials and recordings outside of class, including posting on internet sites or selling to commercial entities. Students are also prohibited from providing or selling their personal notes to anyone else or being paid for taking notes by any person or commercial firm without the
instructor’s express written permission. Unauthorized use of these copyrighted lecture materials and recordings constitutes copyright infringement and may be addressed under the university’s policies, UWS Chapters 14 and 17, governing student academic and non-academic misconduct.

ASSIGNMENTS
Please try your best to work on the assignments, as it is one of the best ways to learn the materials. You are encouraged to discuss with your classmates but be sure that you understand the materials yourself.

ILLNESS POLICY
If you are sick and you think it could be contagious, please stay at home and rest. Email me or check with classmates to get the material you have missed. If you believe that your illness or anything else might give you a long absence from class, please contact me immediately so that we can work out a plan to make sure that you do not fall too far behind.

CLASS MANNERS
- Please come to class on time. If you know that you will be late, please let me know in advance.
- Please do not leave class early. If you must leave early, please let me know in advance.
- Please mute your phone prior to class.
- Please do not use your phone or computer in class unless asked to. A growing body of evidence suggests that the use of laptops, tablets, and phones in classrooms tends to be detrimental to learning. If you want to use a device during class, I ask that you contact me first to make this request. For more context on this policy, see this video (https://www.youtube.com/watch?v=L9eaPx_NYGo&t=296s).

COURSE EVALUATIONS
Students will be provided with an opportunity to evaluate this course and your learning experience. Student participation is an integral component of this course, and your confidential feedback is important to me. I strongly encourage you to participate in the course evaluation.

USEFUL RESOURCES
- University Health Services
- Students’ Rules, Rights & Responsibilities
- Academic Calendar & Religious Observances
- Undergraduate Academic Advising and Career Services
- Office of the Registrar
- Office of Student Financial Aid
- Dean of Students Office

DIVERSITY & INCLUSION STATEMENT
Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background,
experience, status, abilities, and opinion enrich the university community. We commit ourselves
to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked
goals. The University of Wisconsin-Madison fulfills its public mission by creating a welcoming
and inclusive community for people from every background – people who as students, faculty,
and staff serve Wisconsin and the world.

ACADEMIC INTEGRITY STATEMENT
By virtue of enrollment, each student agrees to uphold the high academic standards of the
University of Wisconsin-Madison; academic misconduct is behavior that negatively impacts the
integrity of the institution. Cheating, fabrication, plagiarism, unauthorized collaboration, and
helping others commit these previously listed acts are examples of misconduct which may result
in disciplinary action. Examples of disciplinary action include, but is not limited to, failure on the
assignment/course, written reprimand, disciplinary probation, suspension, or expulsion.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES STATEMENT
The University of Wisconsin-Madison supports the right of all enrolled students to a full and
equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State
Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with
disabilities be reasonably accommodated in instruction and campus life. Reasonable
accommodations for students with disabilities is a shared faculty and student responsibility.
Students are expected to inform faculty [me] of their need for instructional accommodations by
the end of the third week of the semester, or as soon as possible after a disability has been
incurred or recognized. Faculty [I], will work either directly with the student [you] or in
coordination with the McBurney Center to identify and provide reasonable instructional
accommodations. Disability information, including instructional accommodations as part of a
student's educational record, is confidential and protected under FERPA. (See: McBurney
Disability Resource Center.)

COURSE SCHEDULE
Please note that the following listed readings and calendar will be adjusted and updated to
accommodate new materials, class needs, and student interests and experience. I will also
frequently bring in additional materials reflecting current events and issues related to program
evaluation. Changes will be communicated in class and/or by e-mail, and an updated syllabus
will be posted on CANVAS.

Reading List
Causation vs. Correlation I

Causation vs. Correlation II
- Chetty et al. 2016. The Association Between Income and Life Expectancy in the United
The Problem of Confounding I

The Problem of Confounding II

The Potential Outcomes Framework
- *Mastering ’Metrics* p. xi - 11. (from ‘Introduction’ until the paragraph before the cartoon: Breaking the Deadlock: Just RANDomize)

Statistical vs. Causal Inference AND Internal vs. External Validity

Ethics

Randomized Experiments I
- *Mastering ’Metrics* p. 18-33

Randomized Experiments II

Matching

Regression
- *Mastering ’Metrics* p. 48-82
Instrumental Variables I
• Mastering ’Metrics p. 102-133 (right before “One-Stop Shopping with Two-Stage Least Squares”)

Instrumental Variables II

Fixed Effects

Regression Discontinuity I
• Mastering ’Metrics p. 147-174

Regression Discontinuity II
• Venkataramani et al. 2016. Regression Discontinuity Designs in Healthcare Research. BMJ.

Differences-in-Differences I
• Mastering ’Metrics p. 178-203

Differences-in-Differences II

Synthetic Control

Course Calendar
<table>
<thead>
<tr>
<th>Tuesdays</th>
<th>Thursdays</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/9/21</td>
<td>Introduction, Overview, Establishing Guidelines for Productive and Respectful</td>
</tr>
<tr>
<td>Date</td>
<td>Event</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>9/14/21</td>
<td>Discussion, and Signing up for Presentations</td>
</tr>
<tr>
<td>9/16/21</td>
<td>Causation vs. Correlation II</td>
</tr>
<tr>
<td>9/21/21</td>
<td>The Problem of Confounding I</td>
</tr>
<tr>
<td>9/23/21</td>
<td>The Problem of Confounding II</td>
</tr>
<tr>
<td>9/28/21</td>
<td>The Potential Outcomes Framework</td>
</tr>
<tr>
<td>9/30/21</td>
<td>Statistical Inference vs. Causal Inference + Internal Validity vs. External Validity</td>
</tr>
<tr>
<td>10/5/21</td>
<td>ethics</td>
</tr>
<tr>
<td>10/7/21</td>
<td>Student group presentations: correlation or causality in newspaper stories?</td>
</tr>
<tr>
<td>10/12/21</td>
<td>Randomized Experiments I</td>
</tr>
<tr>
<td>10/14/21</td>
<td>Randomized Experiments II: Student group presentations: design your own randomized experiment</td>
</tr>
<tr>
<td>10/19/21</td>
<td>Matching</td>
</tr>
<tr>
<td>10/21/21</td>
<td>Individual Meetings (No Class)</td>
</tr>
<tr>
<td>10/26/21</td>
<td>Regression</td>
</tr>
<tr>
<td>10/28/21</td>
<td>Speaker I (Dave Weimer, Edwin E. Witte Professor of Political Economy, La Follette School of Public Affairs, UW-Madison)</td>
</tr>
<tr>
<td>11/2/21</td>
<td>Instrumental Variables I</td>
</tr>
<tr>
<td>11/4/21</td>
<td>Instrumental Variables II</td>
</tr>
<tr>
<td>11/9/21</td>
<td>Fixed Effects</td>
</tr>
<tr>
<td>11/11/21</td>
<td>Speaker II (Mitch Running, Outreach Specialist, La Follette School of Public Affairs, UW-Madison)</td>
</tr>
<tr>
<td>11/16/21</td>
<td>Regression Discontinuity I</td>
</tr>
<tr>
<td>11/18/21</td>
<td>Regression Discontinuity II</td>
</tr>
<tr>
<td>11/23/21</td>
<td>Differences-in-Differences I</td>
</tr>
<tr>
<td>11/25/21</td>
<td>Thanksgiving break</td>
</tr>
<tr>
<td>11/30/21</td>
<td>Differences-in-Differences II</td>
</tr>
<tr>
<td>12/2/21</td>
<td>Synthetic Control</td>
</tr>
<tr>
<td>12/7/21</td>
<td>Group Meetings (No Class)</td>
</tr>
<tr>
<td>12/9/21</td>
<td>Final Presentations</td>
</tr>
<tr>
<td>12/14/21</td>
<td>Final Presentations</td>
</tr>
</tbody>
</table>