SYLLABUS ECON 870: APPLIED MICROECONOMICS  
Spring 2021  

Professor Donna K. Ginther  
Link: https://kansas.zoom.us/j/93005405282  
Meeting ID: 930 0540 5282  
Passcode: 109179  
Office: 333 Snow Hall  
Phone: 864-3251  
Website: courseware.ku.edu  

Office Hours Zoom Link:  
Link: https://kansas.zoom.us/j/93005405282  
Meeting ID: 930 0540 5282  
Passcode: 109179  

Office Hours: Thurs 10-11  

Teaching Assistant: William Duncan  
Email: w295d127@ku.edu  
Office Hours Zoom Link:  
Link: https://bakeru.zoom.us/j/91663591582  
Meeting ID: 916 6359 1582  

Office Hours: MW 1:30-2:30  

Course Description:  
This course introduces students to the data and empirical methods used in the fields of applied economics such as labor economics, health economics, public finance, and industrial organization. The course will focus on how to adjust for self-selection and identify causal relationships in applied microeconomic fields. Topics covered include economic data and statistical programming, instrumental variables, difference-in-differences, regression discontinuity, count data, sample selection, treatment effects, and duration models. Attention will be given to the suitability of the methods to the research question under consideration. Each topic will emphasize the proper application of the methods using the standard textbook treatment as well as assigned papers that examine the basic economic issues, the econometric techniques, and the applications to data. Prerequisites: Econ 817 and 818 or permission of the instructor.

Requirements:  
Course grades are determined by a combination of 3 problem sets, one referee report, and a research paper. Problem sets will be a combination of mathematical and empirical exercises.

The Research Paper:  
The research paper is an empirical project that can take one of two forms. (1) replicating a published research paper; (2) conducting original empirical research. Those who
choose to replicate a paper must do so without requesting the cleaned version of the data. The paper is meant to demonstrate that you are capable of extracting raw data and creating a data set that facilitates estimation. In either type of paper, students should apply the methods used and discussed in this course.

**Grading Policy:**

Late assignments will not be accepted. Letter grades you receive in the course are final. If you disagree with how course assignments are graded, you may submit a request for re-grading in writing. If the request is granted, the entire assignment will be re-graded. Your grade will be determined by a weighted average of the total points accumulated on the following requirements:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Weight</th>
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<tbody>
<tr>
<td>1. 3 Problem Sets</td>
<td>60 %</td>
</tr>
<tr>
<td>2. Referee Report</td>
<td>15 %</td>
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<tr>
<td>3. Research Paper</td>
<td>25 %</td>
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</tbody>
</table>

**Course-Related Policies:**

- Attendance is not required. However, if you consistently miss class, it will adversely affect your grade because most of the material is not in the textbook. Students are responsible for obtaining missed lecture notes from their classmates. I expect that you arrive to class on time and not depart early. I also request that all cell phones and pagers are turned off for the duration of the class.

- This course requires computer literacy. You are expected to access the course website for access to problem sets, information, and readings. In addition, we will be using STATA for some of the problem sets.

- Any student with a disability that may preclude full course participation should contact the instructor in order to discuss accommodations.

- Any student who plans to observe a religious holiday that conflicts in any way with this course should contact the instructor in order to discuss accommodations.

- This course requires some writing. Bad writing = lower grade. If a paper does not meet a minimal quality of writing, I will not accept it. Thus, I encourage you to use the KU Writing Center. When you visit, bring your work in progress and a list of issues that you would like to discuss with the peer instructors. Please check the website at http://www.writing.ku.edu for current locations and hours. For more information, please call 864-2399 or send an e-mail to writing@ku.edu.

**Office Hours:**
Office hours are on Thursdays from 10 AM - 11 PM or by appointment. Occasionally, the instructor will reschedule office hours and will make announcements in class and on the course website. The most efficient way to contact the instructor outside of class is by using email: dginther@ku.edu. You may also leave a voice mail at 864-3251. However, please be certain to leave a phone number where I may reach you.

**Textbooks:**


*Recommended but not required:*


Professor Scott Cunningham’s *Causal Inference Mixtape.* Available online at: [https://mixtape.scunning.com/](https://mixtape.scunning.com/)

**Software:**

STATA is available in the Economics graduate student lab and in a virtual computer lab. No previous computing experience is required for this course. If you prefer to do your assignments on your home computer, you may purchase a student version of STATA. KU has a Grad Plan that gives students a discount for purchasing the software. Students may also purchase SAS from the university at a discount.

**Online Resources:**


Professor Matt Matsen’s Causal Inference Bootcamp: https://www.youtube.com/user/DukeEHDi/playlists?sort=da&view=1&flow=grid

Tentative Course Calendar:

Any changes in the course calendar will be announced in class and posted on the website.

<table>
<thead>
<tr>
<th>The Week of:</th>
<th>Topic:</th>
<th>Assignment:</th>
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</thead>
<tbody>
<tr>
<td>February 2</td>
<td>Overview of Statistics, Software &amp; Data</td>
<td>Cameron &amp; Trivedi, Chapters 1-2</td>
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<tr>
<td>February 9</td>
<td>Review of Linear Models</td>
<td>Wooldridge Chapters 2-4 Cameron &amp; Trivedi Chapter 3</td>
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<tr>
<td>February 16</td>
<td>Review &amp; Research Design in Microeconomics</td>
<td>Problem Set 1</td>
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<td>February 23</td>
<td>Research Design in Microeconomics</td>
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<tr>
<td>March 2</td>
<td>Panel Data</td>
<td>Cameron &amp; Trivedi, Chapter 8 – 9. Wooldridge Chapter 10.</td>
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<tr>
<td>March 9</td>
<td>Difference-in-Differences</td>
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<tr>
<td>March 16</td>
<td>Difference-in-Differences</td>
<td>Problem Set 2</td>
</tr>
<tr>
<td>March 23</td>
<td>Treatment Effects and Instrumental Variables</td>
<td>Cameron &amp; Trivedi, Chapter 6. Wooldridge, Chapters 5 – 6.</td>
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<td>March 30</td>
<td>Treatment Effects and Instrumental Variables</td>
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<td>April 6</td>
<td>Treatment Effects and Instrumental Variables</td>
<td>Referee Report</td>
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<td>April 13</td>
<td>Regression Discontinuity</td>
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<td>April 20</td>
<td>Discrete Dependent Variables</td>
<td>Cameron &amp; Trivedi Chapters 14 &amp; 17. Wooldridge Chapter 15 (Discrete Data), Chapter 19 (Count Data) Problem Set 3</td>
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<tr>
<td>April 27</td>
<td>Truncated and Censored Data</td>
<td>Cameron &amp; Trivedi, Chapter 16. Wooldridge Chapter 16-17.</td>
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May 4  Paper Presentations in class
May 13 Paper Due  3:00 PM Word Document via email.

I. Overview of Statistics, Software and Microeconomic Data

Cameron and Trivedi, Chapters 1-2.


II. Review of Linear Models and Randomized Controlled Trials

Wooldridge, Chapters 2 – 4.
Cameron and Trivedi, Chapter 3.


III. Research Design in Microeconomics and Big Data


IV. Panel Data: Fixed and Random Effects
Cameron and Trivedi, Chapter 8 – 9.
Wooldridge Chapter 10.


**V. Difference-in-Differences Estimation**


### VI. Treatment Effects, Instrumental Variables and Two-Stage Least Squares

Cameron and Trivedi, Chapter 6.

Wooldridge, Chapters 5 – 6.


**VII. Regression Discontinuity**


**VIII. Discrete Dependent Variables**

Cameron and Trivedi Chapters 14 & 17.  
Wooldridge Chapter 15 (Discrete Data), Chapter 19 (Count Data).


**IX. Truncated and Censored Data, Sample Selection**

Cameron and Trivedi, Chapter 16.
Wooldridge Chapter 16-17.


**X. Duration Models**

Wooldridge Chapter 20.
