COURSE DETAILS

Title: ECON 6375 Applied Econometrics
Section: Section 10 (CRN 44413)
Semester: Spring Semester 2019
Location: Rome Hall 459, 801 22nd St NW Washington, DC 20052
Time: Monday, 6:10 p.m. - 8:40 p.m. (January 14 – April 29, 2019)

INSTRUCTOR
Name: Dr. Christine McDaniel
Campus Address: Department of Economics, 2115 G St., NW, Washington, DC 20052
E-mail: mcdaniec@gmail.com
Tel: (703) 993-9228
Office hours: By appointment

GRADUATE ASSISTANT
Name: Ms. Shuang Wu
Email: swu2@gwmail.gwu.edu
Time and Location: M/R: 4:30 – 6:00, Monroe 324

COURSE DESCRIPTION
An introduction to the skills needed to critically evaluate and conduct econometric analysis. Multiple regression analysis; theoretical underpinnings of the ordinary least squares estimator; interpreting regression results and how to address common issues that arise in regression analysis; econometric methods to estimate and test economic models and to address causal questions using observational data. Students build proficiency in using statistical software to perform basic econometric techniques studied in the course. Restricted to students in the MA in applied economics program. Prerequisites: ECON 6300 and ECON 6374.

PREREQUISITES
Probability and Statistics for Economics (Econ 6374)
Mathematical Methods for Economics (Econ 6300)
TEXT

COURSE OBJECTIVES
The purpose of this course is to give students a solid foundation in econometric techniques. We will focus on techniques that are commonly used in applied microeconomics. This course will help you to rigorously understand issues in connecting data, statistics and economic theory. This toolkit will be of practical use to any student who plans on confronting data in their thesis or in their applied work, or wishes to read and precisely understand the econometrics typically used in empirical research.

LEARNING OUTCOMES
As a result of completing this course, students will:
1. be familiar classical regression theory and techniques,
2. be comfortable using econometric software (STATA) for regression analysis,
3. be able to interpret regression results and test economic models, and
4. be able to critically evaluate the implications of regression results presented in research papers

GRADING
- Homework 20%
- Midterm exam 30%
- Final exam 30%
- Research paper and presentation 20%

HOMEWORK PROBLEM SETS
I will post homework problems to the course website. It is important that you do your homework on a weekly basis in order to keep up with the course. The problem sets will ask you to estimate econometric models and discuss results. Getting the correct answer and how well you interpret your results are both important. The problem sets are as much about gaining insights as they are about the underlying statistics.

EXAMS
The course includes two exams (one midterm and one final). The dates and times for the exams appear on the schedule below, and all students are expected to be available for the exams. You must be present during the exams and if you have an unavoidable conflict, please come and see me as soon as possible.

RESEARCH PAPER
An empirical research paper is due at the end of the term. There will be preliminary assignments prior to the final due date to encourage you to define your research question, identify the data you will use in the analysis, and report your progress. You will also make a presentation to the class about your paper. More information on this project will be provided on a separate handout.
STATISTICAL SOFTWARE
We will use Stata 15, which is available at the campus computing centers. Lots of information on Stata can be found here: https://www.stata.com/links/resources1.html. There are videos about Stata here: https://www.youtube.com/user/StataCorp and you can order your own copy of Stata at a very low educational rate; see the information here: http://www.stata.com/order/new/edu/gradplans/student-pricing/.

AVERAGE MINIMUM AMOUNT OF INDEPENDENT, OUT-OF-CLASS, LEARNING EXPECTED PER WEEK
In a 15 semester week, including exam week, students are expected to spend a minimum of 100 minutes of out-of-class work for every 50 minutes of direct instruction. This 3-credit course includes 2.5 hours (150 minutes) per week in lecture. Accordingly, homework and other out-of-class work are estimated at around 300 minutes per week. More information about GW’s credit hour policy can be found on GW’s website.
<table>
<thead>
<tr>
<th>Week #</th>
<th>Date</th>
<th>Lecture</th>
<th>Assignment for this class</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Reading</td>
</tr>
<tr>
<td>1</td>
<td>1/14</td>
<td>Course introduction, fundamentals of econometrics, review of some statistics</td>
<td>Chap. 1 and 2; and DiNardo 2005 handout (§ 4-5)</td>
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<tr>
<td>2</td>
<td>1/21</td>
<td>Simple regression</td>
<td>Chap. 2</td>
</tr>
<tr>
<td>3</td>
<td>1/28</td>
<td>Multiple Regression Analysis: estimation</td>
<td>Chap. 3</td>
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<tr>
<td>4</td>
<td>2/4</td>
<td>Multiple Regression Analysis: estimation</td>
<td>Chap. 3</td>
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<tr>
<td>5</td>
<td>2/11</td>
<td>Multiple Regression Analysis: inference</td>
<td>Chap. 4</td>
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<td>6</td>
<td>2/18</td>
<td>Midterm</td>
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<tr>
<td>7</td>
<td>2/25</td>
<td>Regression analysis with cross section data</td>
<td>Chap. 6</td>
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<tr>
<td>8</td>
<td>3/4</td>
<td>Regression analysis with cross section data</td>
<td>Chap. 6</td>
</tr>
<tr>
<td>9</td>
<td>3/11</td>
<td>Dummy variables</td>
<td>Ch 7</td>
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<tr>
<td>10</td>
<td>3/18</td>
<td>Heteroskedasticity; More on specification and data issues</td>
<td>Ch 8; Ch 9</td>
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<tr>
<td>11</td>
<td>3/25</td>
<td>Panel data and advanced topics</td>
<td>Ch 13</td>
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<td>12</td>
<td>4/1</td>
<td>Difference in difference</td>
<td>Ch 13 and handouts</td>
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<tr>
<td>13</td>
<td>4/8</td>
<td>Difference in difference; Instrumental variables</td>
<td>Ch 13 and handouts; Ch 15 and handouts</td>
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<td>14</td>
<td>4/15</td>
<td>Instrumental variables; experiments, randomized control trials, and emerging areas</td>
<td>Ch 15 and handouts;</td>
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<td>15</td>
<td>4/22</td>
<td>Group project presentations; final review</td>
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<td>16</td>
<td>4/29</td>
<td>Final Exam</td>
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Note: In the event of cancelled class time (e.g., due to inclement weather), an alternate class session or activities will be added to the course outline in order to meet the required contact hours, upon approval of the Dean. TBA indicates ‘to be announced’.
OTHER GW INFORMATION:

UNIVERSITY POLICY ON RELIGIOUS HOLIDAYS
1. Students should notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance;
2. Faculty should extend to these students the courtesy of absence without penalty on such occasions, including permission to make up examinations;
3. Faculty who intend to observe a religious holiday should arrange at the beginning of the semester to reschedule missed classes or to make other provisions for their course-related activities.

For GW’s teaching policies, see http://www.gwu.edu/~academic/Teaching/main.htm

ACADEMIC INTEGRITY
I personally support the GW Code of Academic Integrity. It states: “Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information.” Please note that allowing another student to copy your work is defined as cheating under the Academic Integrity code.

Common examples of academically dishonest behavior include, but are not limited to
1) Cheating
2) Fabrication
3) Plagiarism
4) Falsification and forgery of University academic documents
5) Facilitating academic dishonesty

Sanctions range from failure of the assignment, to failure of the course, to suspension or expulsion from the University. For the remainder of the code, see: http://www.gwu.edu/~ntegrity/code.html

All students need to be familiar with GW's Code of Academic Integrity. Item 3 in Section 1 of Article II of the Code deals with plagiarism.

“Plagiarism - intentionally representing the words, ideas, or sequence of ideas of another as one's own in any academic exercise; failure to attribute any of the following: quotations, paraphrases, or borrowed information.”

For a full set of definitions, see: http://www.gwu.edu/~ntegrity/code.html#definition
For the full Code, see: http://www.gwu.edu/~ntegrity/code.html

Plagiarism and How to Avoid It
Plagiarism is a serious matter both inside and outside academia. Students are responsible for becoming familiar with the different forms that plagiarism can take. Ignorance doesn’t exempt you from being penalized for plagiarism so it is essential to educate yourself about what constitutes plagiarism before writing an essay for a take-home exam, a term paper, a dissertation, or a report in the workplace.
You can find a good overview of plagiarism and how to avoid it at:
http://widstudents.wordpress.com/tag/plagiarism/

It’s worth reading through the entire web page, including the section titled "Plagiarism Tales at GW." The following document has good examples of the different forms that plagiarism can take (in Section 4). The document should dispel the possible misconception that plagiarism is committed only when an entire paper, or large parts of a paper, are copied. That is NOT the case. Copying a sentence or even a phrase without properly attributing it constitutes plagiarism.
http://www.ece.msstate.edu/~fowler/Classes/plagiarism.pdf

On the important distinctions among quoting, paraphrasing, and summarizing, see
http://owl.english.purdue.edu/owl/resource/563/01/

On the proper use of quotations, see
http://writingcenter.unc.edu/resources/handouts-demos/citation/quotations

SUPPORT FOR STUDENTS OUTSIDE THE CLASSROOM

DISABILITY SUPPORT SERVICES (DSS)
Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in Rome Hall, 801 22nd St., NW, Suite 102, to establish eligibility and to coordinate reasonable accommodations. For additional information, please refer to https://disabilitysupport.gwu.edu/

Students must arrange with the DSS office well in advance of needing the service.

UNIVERSITY MENTAL HEALTH SERVICES 202-994-5300
The University’s Mental Health Services offers 24/7 assistance and referral to address students' personal, social, career, and study skills problems. Services for students include crisis and emergency mental health consultations, confidential assessment, counseling services (individual and small group), and referrals. For additional information see: https://healthcenter.gwu.edu/mental-health

SECURITY
In the case of an emergency, if at all possible, the class should shelter in place. If the building that the class is in is affected, follow the evacuation procedures for the building. After evacuation, seek shelter at a predetermined rendezvous location.