Course Syllabus
ECON 4820/6820 – Econometrics
Fall Semester, 2018
3.0 Credit Hours
(Last updated: 8/3/2020)

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Office Hours: by appointment

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About This Course:

- This course is fully online, which means this course will proceed by self-paced work supported through online learning tools.
- Virtual lectures will continue to be posted here.

Covid-19 Note:

- Be aware of the FCBE COVID-19 Notice to understand important expectations for class conduct, health and safety, and other processes.

Course Overview:

This course provides an overview of elementary econometric theory and methods with applications. The 'application' aspect implies becoming familiar with computer statistical software Stata or R.

Pre-Requisites/Co-Requisites:

There are no course pre-requisites to enrolling in this course

Required Textbook:
Location of Course Materials:
Virtual lectures will continue to be posted here. All other course materials are located on the eCourseware website.

Stata:
- Stata can be accessed https://citrix.memphis.edu/vpn/index.html
- To load a dataset, click the followings: open → local disk(C: ...) → users → your id → location of your dataset
- There are many online tutorials on STATA. Google it!

R:
- http://www.urfie.net/ This online textbook replicates our textbook using R.
- There are many online tutorials on R, too. Google it!

Course Objectives:
By successfully completing this course,

1. Students will discuss the importance of the assumptions underlying the Classical Linear Regression Model (CLRM)
2. Students will explain how OLS works
3. Students will practice proper inference after using OLS to test single and multiple linear and non-linear hypotheses
4. Students will discuss the consequences for OLS when assumptions of the CLRM are violated, including when the data are measured with error
5. Students will explain how panel and instrumental variables estimation works
6. Students will develop and prove competency in Stata in order to apply the techniques learned

Grading and Evaluation Criteria
- There will be two exams (two midterms); The first midterm is set during 11:20-12:40 on 9/24. The second midterm is during 11:20-12:40 on 11/5. I will email you the exam questions at 11:20, and you need to email your scanned (taken in the picture) answers back to me by 12:40. It is students’ responsibility to write clearly so that they don’t get penalized for illegible writing. – each worth 30%
- A research project; The research paper is due on 11/19. The research paper does not have to a big burden. Pick two variables that you are interested in and explore their relationship using the tools that you will learn in this class. Sample paper is available in ecourseware. Submit your paper to "Dropbox" folder under "Assessments" (Go to "Dropbox" under "Assessments") – 20%
- There will be 3-4 homeworks. Assigned problems may be mostly empirical, but some are theoretical. The homeworks will be graded on a "check/-check/check+" basis, which roughly corresponds to 60/80/100 points. Submit your answer to "Dropbox" folder under "Assessments". – 20%
Final course grades are earned according to the following table:

<table>
<thead>
<tr>
<th>Point Range</th>
<th>Assigned Grade</th>
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<tbody>
<tr>
<td>85-100 Points</td>
<td>A</td>
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<tr>
<td>70-85 Points</td>
<td>B</td>
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<tr>
<td>55-70 Points</td>
<td>C</td>
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<td>Under 60 Points</td>
<td>D/F</td>
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E-MAIL:

While great effort has been put into designing a course that is well organized and clearly laid out, I know that you may need to have direct content with me from time to time. The best method to reach is the email. My email address is jlee17@memphis.edu. **When sending an email, make sure to title ECON 4820 (e.g. ECON 4820, question about grading).** I check email at least once every 48-72 hours in any given week (although often on a more frequent basis). Thus, you can email me any time throughout the week within the course and I will likely respond within 24 hours.

Academic Integrity:

The University of Memphis has clear codes regarding cheating and classroom misconduct. If interested, you may refer to the Student Handbook section on academic misconduct for a discussion of these codes. Note that using a “Solutions Manual” is considered cheating. Should your professor have evidence that using a “Solutions Manual” has occurred, he/she may take steps as described on the campus’ Office of Student Conduct website. If you have any questions about academic integrity or plagiarism, you are strongly encouraged to review the Fogelman College’s Website on Academic Integrity.

Student Services

Please access the [FCBE Student Services](#) page for information about:

- Students with Disabilities
- Tutoring and other Academic Assistance
- Advising Services for Fogelman Students
- Technical Assistance

Tentative Course Schedule:

<table>
<thead>
<tr>
<th>Week</th>
<th>Course Content</th>
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</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; week</td>
<td>Introduction of the course and STATA</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; week</td>
<td>OLS with single regressor; OLS assumptions</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; week</td>
<td>OLS with single regressor; normal distribution, hypothesis test</td>
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<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt; week</td>
<td>OLS with single regressor; other concepts</td>
</tr>
<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt; week</td>
<td>Computer software of OLS with single regressor</td>
</tr>
<tr>
<td>6&lt;sup&gt;th&lt;/sup&gt; week</td>
<td>Exams</td>
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<tr>
<td>Week</td>
<td>Topic</td>
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<tr>
<td>7th</td>
<td>OLS with multiple regressors; introduction</td>
</tr>
<tr>
<td>8th</td>
<td>OLS with multiple regressors; conditional mean independence, F-stat</td>
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<tr>
<td>9th</td>
<td>OLS with multiple regressors; other concepts</td>
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<tr>
<td>10th</td>
<td>Computer software of OLS with multiple regressors</td>
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<tr>
<td>11th</td>
<td>Nonlinearity</td>
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<tr>
<td>12th</td>
<td>Exams</td>
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<tr>
<td>13th</td>
<td>Advanced topics</td>
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<tr>
<td>14th</td>
<td>Presentatino</td>
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