

**University of Kentucky - Department of Economics**  
**Economics 603 – Fall 2018**  
**Research Methods and Procedures in Economics**

**Course Information:**

Professor: Dr. Carlos Lamarche  
 Email: [clamarche@uky.edu](mailto:clamarche@uky.edu)  
 Office phone: 257-3371  
 Lectures: MW from 1:30 PM - 2:45 PM, B&E 127  
 Office Hours: MW, 4:30-5:30pm, and upon request, 223G B&E Building  
 Course Web Site: <http://gatton.uky.edu/Faculty/lamarche/ec603/ec603.html>

**Course Description:**

This course provide students a broad understanding of the statistical tools underlying econometric estimation and inference. A comprehensive survey of probability, random variables, and distribution functions is introduced in the first part of the course. We later discuss sampling distributions of estimators and both finite and large sample performance of estimators and tests.

**Tentative Course Schedule:**

The following schedule should be considered preliminary. I will cover all the material but I reserve the right to introduce changes and/or improvements. I will provide lecture notes but reading the material I listed below is encouraged.

Week	Date	Topic	Reference
1	August 23	Foundations of Probability Theory	H 2, CB 1
2	August 30	Random Variables	H 3
3	September 6	Univariate Probability Distributions	H 4
4	September 13	Multivariate Probability Distributions	H 5
5	September 20	Sampling Theory	H 6
6	September 27	Convergence and Limit Theorems	H 7
7	October 4	Theory of Estimation	H 8
8	October 11	Midterm Exam	
9	October 18	Maximum Likelihood Estimation	H 8
10	October 25	Method of Moments and GMM	H 8
11	November 1	Hypothesis Testing	H 9
12	November 8	The Classical Linear Regression Model	H 10
13	November 15	The Method of Ordinary Least Squares (OLS)	H 10
14	November 29	Finite Sample Properties of OLS	Lecture notes
15	December 6	Matrix Algebra	Lecture notes
16	Dec 10 - 14	Finals Week	

**Textbooks:**

There is no required textbook but you should have the following textbook:

1.1 Probability and Statistics for Economists, Yongmiao Hong (2018), World Scientific (H)

I definitely recommend the following textbooks:

1.2 Statistical Inference, George Casella and Roger L. Berger (2002), Cengage Learning, 2<sup>nd</sup> edition (CB)

1.3 Introduction to Mathematical Statistics, Robert V. Hogg, Joseph W. McKean, and Allen T. Craig (2019), Pearson, 8<sup>th</sup> edition (HKC)

**Attendance Policies and Reported Attendance:**

In order to meet federal regulations, the instructor will monitor student participation in this class through attendance or assignments. The instructor will assess student engagement at least once during the first three weeks of the semester using an instrument or activity. Students whose engagement cannot be determined on that date may be dropped from the course. If you will be missing any class period or will not be submitting an assignment during that period, it is your responsibility to notify the instructor, regardless if the absence or missed assignment is excused or not under University rules.

**Attendance Policies and Excused Absences:**

It is students' responsibility to attend class. Students however need to notify the professor of absences prior to class when possible. S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit "reasonable cause for nonattendance" by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

**Verification of Absences:**

Students may be asked to verify their absences in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request "appropriate verification" when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required prior to the absence.

**Academic Integrity:**

Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the university may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website:

<http://www.uky.edu/Ombud>. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Part II of *Student Rights and Responsibilities* (available online <http://www.uky.edu/StudentAffairs/Code/part2.html>) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about the question of plagiarism involving their own work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgement of the fact, the students are guilty of plagiarism. Plagiarism includes reproducing someone else's work, whether it be a published article, chapter of a book, a paper from a friend or some file, or something similar to this. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be.

Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone. When a student's assignment involves research in outside sources of information, the student must carefully acknowledge exactly what, where and how he/she employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain (Section 6.3.1).

#### **Accommodations due to disability:**

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (725 Rose Street MDS Bldg Suite 407, phone number: 257-2754, email address: [drc@uky.edu](mailto:drc@uky.edu)) for coordination of campus disability services available to students with disabilities.

#### **Course Grade:**

The grade distribution is 90-100% = A, 82 – 89% = B, etc. However, I reserve the right to curve the grades as I see fit.

The grades will be based on: Problem Sets (20%), Midterm (35%), and Final (45%).