ECONOMICS 4631
Econometrics Methods
FALL 2018

Instructor:	Lecture meeting time and location:
Xintong Wang	TR 15:00 PM – 16:30 PM
Office: 2307 Business Complex South	Classroom: 1125 BEC
Email: wang2@lsu.edu	
Office hours: Tuesday 8:45-10:00 am	Term: August 20 – Dec 1, 2018
Wednesday 3:00-5:00 pm	
Thursday 4:45-6:00 pm	Final Exam: Wednesday, Dec 5th, 2018 5:30PM-
Or by appointment	7: 30 PM
TA:	
Maorui Yang	Prerequisites: Econ 4630
Office & Hours: 2061 BEC South Fri 10-11am	
Email: myang15@lsu.edu	

Note:

All information on this syllabus is subject to change. Any changes to syllabus will be announced via Moodle (in addition to in class). Please make sure that you are receiving notifications via Moodle every day for this course.

Required Texts:

1. Hill, Griffiths, Lim, *Principles of Econometrics*, 5th Edition, John Wiley and Sons, 2011.

   Earlier editions may be less expensive, and rental may be the lowest cost option. If you use an earlier edition, it is your responsibility to keep track of possible discrepancies in page numbers, problems, chapter numbers, etc.

2. Adkins, Hill, Using Stata for Principles of Econometrics, 5th Edition

3. Class workbook: I will post them on the Canvas. Please print them out and bring them to the class. And during the class we will complete them and they will be your class notes.

4. External articles, readings, podcasts etc: They will be listed at least a full week ahead of the assigned class time on Moodle. You are expected to read them before coming to the lecture discussions.

Why you may want to take this class?

Reason 1- The knowledge and skills to "work like an economist"

This course will further students' knowledge on techniques that all economists use to estimate, test, and forecast economic relationships. The primary focus of this course is on various more advanced regression models. The lectures will focus on theory, while a considerable amount of time will be invested in learning to use Stata.

Reason 2 – The statistical and econometrics theories that will benefit you in all work you do

The econometrics knowledge and data management skills will pave the way for students to conduct quantitative empirical research in economics, business, social sciences, health, and public policy areas, and any other fields that use inferential statistics and regression models.

Reason 3 – Incorporating econometrics knowledge to your economics study and beyond

We will introduce economic data sets and practice finding data resourcefully. This course will teach you the steps of conducting an empirical research that use econometrics - finding a research question, theorizing, finding data, econometrics analysis, and discussion of the results.

Course Outcomes:

After this class, students will be able to

1. Apply more advanced regression models covered in class. This includes constructing econometrics models, estimating relevant economic parameters, predict economic outcomes, and test economic hypotheses using quantitative data.

2. Do regression analysis. You should be able to formulate a topic to perform regression analysis, theorize your question and form hypothesis, specify a regression equation, collect data, estimate descriptive statistics, run regressions, and interpret and evaluate the results from these regression analyses.

3. Demonstrate the necessary components of a well-written empirical research paper. Consistency in writing style and referencing is important.

4. Demonstrated understanding of the basic assumptions of the classical linear regression model and correct any violations of these assumptions.

5. Evaluate regression results, determine whether the regression coefficients have the expected sign and/or magnitude, determine the statistical significance of the regression coefficients, whether the equation includes irrelevant variables or omits theoretically relevant variables, and whether the goodness of fit of the equation and other criterion appears adequate.

6. Demonstrate a mastering of Stata syntax and coding, data management, and best coding and documentation practices to estimate econometric models.

Communications:

All the class announcements will be made through Moodle. Please check up on it at least once a day.

In emails, please include the name of the class in the subject of your email. Please allow one business day for email response. In the unlikely event that the instructor hasn't replied in a business day, you are encouraged to follow up and contact the instructor again.

To increase efficiency and reduce waiting time, please send email for office hour appointment using your full name and class number. Feel free to just drop in as well, while the instructor will prioritize talking with students who have made appointments. The default slot is 15 mins maximum.

Graded Items and Activities:

1. *Problem Sets (Full Points, 100)*

There will be 4 problem sets assigned throughout the semester. These problem sets aim to give you opportunity to self-test your mastery of the knowledge. The problem sets' questions will resemble most of the final exam questions.

Late work will be accepted for 60% of the possible points up until 3 calendar days when it is due, unless accompanied by an acceptable form of proof of absence (doctor's note, police report, etc.) in which case full credit will be possible. No late homework is accepted after 3 calendar days when it is due.

To ensure that I receive your homework, you will need to turn in a hard copy of the problem set and a scanned version to me via Moodle by the due date. The submitted electronic record will be helpful when the hardcopy gets lost. Homework with identical answers will be given no credit and without exception referred to the Committee on Standards. These also apply to the lab assignment.

2. *Lab Assignments (Full Points, 100)*

Lab assignments focus on computation skills using Stata. There will be 3 lab assignments throughout the semester. The assignments will focus on Stata skills covered in the lab days.

3. *Exams*

There will be two exams, two midterms and no final exam. No make-up exams will be given, exceptions are religious holidays, authorized games/activities representing the university, on-set acute disease/chronic conditions. In these cases, records/documentations are required. Students should arrange make-up exams at least 2 weeks ahead of the exam date for legitimate reasons.

Material for the exams will come from class lectures, problem sets, in class quizzes, the text and external readings. This subject is by its nature cumulative, and so the exam will assume an understanding of all previously covered material.

Exams will include written short answer/definition questions, as well as longer problems. I will give you more information regarding format of exams at appropriate time.

4. *Classroom Participation (Full Points, 100)*

a. *Pop Quizzes (90 points)*

We will take (both open-book and closed-book) pop quizzes during the class. These quizzes help you reinforce those difficult and crucial materials in class on the spot. The content will be drawn from material covered on that day. Each pop quiz will be of 10 points. There will be 9 quizzes total. No make-up quizzes are given, however, the lowest 3 quizzes' grades will be dropped. Note that the latter policy incorporates the quizzes that you didn't take as you were absent.

b. *In Class Cold-call Questions (10 points)*

We will have in class discussion based on the assigned materials. There will be cold-call questions. The cold-call questions are done by drawing names from shuffling without replacement (so no backbenchers); the people being called have the option of answering the question on their own, or passing-on the question to another person of their choice. Each student has at least one opportunity to be drawn and each question worth 10 points.

There will be at least one Cold-call and Volunteer Questions included in each exam. The questions or answers will not be re-posted on Moodle.

Points exceeding 100 in the classroom participation component may be allocated in one of the other components; no more than 20 points can be transferred.

5. *Final Project (Full Points, 100)*

The final project will challenge you to apply the skills gained from class to an applied problem. Students will demonstrate their knowledge of the materials by submitting written reports throughout the semester, which will end with a poster presentation on the last day of class and the final paper due on the final exam day - Dec 5th, 2018.

Grading Policies:

Note: You need to take the final exam to receive a class grade above F.

You will receive a percentage grade for each component in Table 2; the weighted average percentage class grade will be calculated based on the weights in the second column of Table 2; then the percentage grade will be converted to the class letter grade in Table 1.

Table 1
Grading Scale

Numeric Score	Letter Grade
98 – 100	A+
93 – 97	A
90 – 92	A -
87 – 89	B +
83 – 86	B
80 – 82	B -
77 – 79	C +
73 – 76	C
70 – 72	C -
67 – 69	D +
63 – 66	D
60 – 62	D -
0 – 59	F

Table 2
Component Weights

Problem Sets 4 total	15%
Lab Assignments	15%
Exam 1	20%
Exam 2	20%
Final Project	20%
Class Attendance	See below
Classroom Participation	10%, bonus

Course Policies:

1.   The instructor expects students to attend all classes on time. If you miss a class, you are responsible for the material. There is no opportunity to make up in-class work. Attendance is taken at the beginning of each scheduled lecture meeting (so do not be late).

2.   Students are expected to come to class on time. Late arrivals are disruptive to the class and disrespectful to your fellow students. More than nine minutes late will count as an absence. Being non-present in the classroom for over 10% of the class count as an absence.

3.   Attendance is a minimum requirement for participation. Students are allowed 3 absences without penalty. After 3 absences any further absences, regardless of reason, will bring down your final class grade by 1 increment. For example, if your final class grade based on all the problem sets, exams, lab assignments and participation is A, but you have 4 absences, your final grade will be lowered to A-. More than 8 absences will result in automatic incomplete/fail grade for course.

4.   The instructor's attendance record is the final arbiter of your attendance. It is your responsibility to make sure that you answer the roll each day. If you will need time off for other events or illness or family emergencies, then it is optimal for you to save those three absences for which you will not be penalized.

5.   Phones   should   be   turned   silent   upon   entering   class.   This   implies   NO texting/Facebooking/Instagramming/tweeting/snapchatting (or using any other social media) during the lecture, not even under the desk. Computers are not allowed in non-lab day classes. In classes in which we will be on the computers in the classroom, it is expected that the computers will only be used for class related work.

6.   In the past, students state they use their cell phones as a calculator. While that might be true, I want you to invest in a scientific calculator. Please wait until the lecture ends before gathering your belongings. If you need to leave early, please sit near the door. If you arrive late to class, please minimize the distraction to the lecture.

7.   Assigned readings for the next week will be sent out by Friday's afternoon. Students are expected to have completed all class readings before class. There will likely be some things that you may not understand on first reading. It is the purpose of the lecture to help overcome these issues, and to focus on the most important ideas. However, it is not possible for everything in the textbook to be covered in the lecture. You are responsible for all material in the assigned readings.

8.   The best way to contact me, other than coming to see me personally, is email. Please include the name of the class in the subject of your email. Please allow 24 hours for response. In the unlikely event that I haven't gotten back to you in 24 hours, you are encouraged to follow up and contact me again.

9.   For reasons due to religious observations or games/activities authorized by the university, it is students' obligation to inform faculty of any necessary accommodation well in advance of the date (2 full weeks minimum) on which special accommodations are needed.

10.   Late Exams and Assignments: No make-up exams/quizzes will be given. Late work will be accepted for 60% of the possible points up until 3 calendar days when it is due, unless accompanied by an acceptable form of proof of absence (doctor's note, police report, etc.) in which case full credit will be possible. No late homework is accepted after 3 calendar days when it is due.

11.   The instructor strives for a non-anonymous classroom environment. I would encourage you actively participate in class questions/ discussions, and remain attentive and respectful when your fellow classmates are speaking. I encourage everyone to drop in the office hours (mine and/or the TA's).

13.   You must always see your interactions with me (and the TA) in a professional manner. Thus, if you are sending me an email, you must include a subject, start with a salutation (e.g., "Hello Professor..." or "Dear Professor..."; "Miss/Ms/Mrs Wang, Madam, Ma'am" are the worst), and end your email appropriately. I will not reply to an email that does not adhere to these guidelines - this is great practice for when you are on an internship or become employed.

Academic Honesty Statement:

Academic misconduct (i.e. cheating, fabrication, plagiarism) as defined by the LSU Code of Student Conduct will be prosecuted vigorously. For the activities that are considered to be academically dishonest and the possible sanctions imposed on a student who is found guilty of academic dishonesty, refer to the Code of Student Conduct: https://www.lsu.edu/saa/students/codeofconduct.php.

Disabilities Syllabus Statement:

Louisiana State University is committed to providing reasonable accommodations for all persons with disabilities. The syllabus is available in alternate formats upon request.

Students with disabilities: If you are seeking classroom accommodations under the Americans with Disabilities Act, you are required to register with Disability Services in 115 Johnston Hall. Their phone number is 225-578-5919 and website is www.lsu.edu/disability. To receive academic accommodations for this class, please obtain the proper Disability Services forms and meet with me at the beginning of the semester.

Tentative Course Schedule:

Adjustments may be made over the course of the term.

Time	Readings
Week 1 Aug 21, 23	Introduction and Review Class 1: Introduction and Probability Review: Probability Primer Class 2: Probability and Regression Review: Probability Primer
Week 2 Aug 28, 30	Regression in Depth Class 3: Regression in Depth: Chapter 2 & 3 Class 4: Regression in Depth: Chapter 2 & 3 Problem Set 1 due on Tuesday
Week 3 Sep 4, 6	Heteroskedasticity Class 5: Appendices in Chapter 2 & 5 Class 6: Appendices in Chapter 2 & 5 Final Project Assignment 1 – Annotated Bibliography Due on Tuesday
Week 4 Sep 11, 13	Heteroskedasticity Class 7: Chapter 8.1-8.2 Class 8: Chapter 8.3-8.4 Problem Set 2 due on Tuesday
Week 5 Sep 18, 20	Class 9: Review Chatch-up Class 10: Exam 1
Week 6 Sep 25, 27	Heteroskedasticity Class 11: Chapter 8.3-8.4 Class 12: Chapter 8.5 Lab 1 Assignment due on Thursday
Week 7 Oct 2, 4	Heteroskedasticity Class 13: Chapter 8.6 Oct 4. Fall break!
Week 8 Oct 9, 11	Linear Probability Model and the Maximum Likelihood Method Class 14: Chapter 8.6-8.7, 16.1 Class 15: Chapter 16.2-16.3 Problem Set 3 due on Thursday
Week 9 Oct 16, 18	Linear Probability Model and the Maximum Likelihood Method Class 16: Chapter 16.4-16.5 Class 17: Chapter 16.6 Final Project Assignment 2 – RAP Due Tuesday
Week 10 Oct 23, 25	Time Series Class 18: Chapter 9.1, 12.1 Class 19: Chapter 9.2-9.3 Problem Set 4 Due on Thursday
Week 11 Oct 30 and Nov 1	Random Regressors and Moment-Based Estimation Class 21: Chapter 10.1-10.2 Class 22: Chapter 10.3-10.4 Lab Assignment 2 Due on Tuesday Final Project Assignment 3 - Data Collection and Methods Due Thursday - Nov 2 is the last day of dropping the class - Nov 2 is the final day to request rescheduling of the final exams when 3 exams are scheduled in 24 hours
Week 12 Nov 6, 8	Random Regressors and Moment-Based Estimation Class 23: Review and Catch-up

	Class 24: Exam 2
Week 13 Nov 13, 15	Panel Data Models Class 25: Chapter 15.1-15.3 Class 26: Chapter 15.4-15.5 Lab Assignment 3 Due on Thursday
Week 14 Nov 20, 22	Class 27: Review and Catch-up/ Special Topics Final Project Assignment 4 – Results and Discussion Due on Tuesday Nov 22. Thanksgiving!
Week 15 Nov 27, 29	Class 28: Review and Catch-up/ Special Topics Class 29: Final Project Poster Session

Campus Support Services:

For academic or personal wellbeing needs of support, actively seek out help from the student support services.

Center for Academic Success: https://www.lsu.edu/cas/

Center for Advising & Counseling: https://www.lsu.edu/universitycollege/ucac/index.php

LSU Cares: www.lsu.edu/lsucares

Olinde Career Center: https://www.lsu.edu/careercenter/index.php

And more.