ECON 4112: ECONOMETRICS II
Syllabus for Spring 2021
9:05 a.m. – 9:55 a.m. MWF
Online

Instructor
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Office Hours
1:30 p.m. – 4:30 p.m. MW
If these hours are not convenient, feel free to make an appointment with me for another time.

Textbooks
There are two textbooks that are especially useful for this course:

(1)   Stock, James H., and Mark W. Watson. 2019. *Introduction to Econometrics*, 4th edition. Boston, MA: Pearson Addison Wesley.

(2)   Wooldridge, Jeffrey M. 2020. *Introductory Econometrics: A Modern Approach*, 7th edition. Boston, MA: Cengage Learning.

If you already have one of these textbooks, then you will be fine; if you do not already have one of these textbooks, then you should buy one of them as soon as possible. If you have the updated 3rd edition of Stock and Watson (Stock and Watson 2015) or the 6th edition of Wooldridge (Wooldridge 2016), you will also be fine.

Course Objectives
We will investigate selected advanced data analysis techniques that economists often use. We will focus on understanding the strengths and limitations of the methods we cover, on using econometric software to apply these methods, and on interpreting the results we get.

Software
We will use STATA for the applications that we do in this course. The University provides on-campus and remote access to STATA. It is also possible to purchase STATA at a reduced rate through the STATA website (http://www.stata.com/order/new/edu/gradplans/student-pricing/). The STATA/IC version is sufficient for the problem sets that you will be assigned in this course. The websites http://data.princeton.edu/stata/, http://www.ats.ucla.edu/stat/stata/, and https://www.ssc.wisc.edu/sscc/pubs/sfr-intro.htm have a number of examples and other resources that you may find helpful as you work with STATA.

Means of Student Evaluation
Course grades will be determined by your performance on 3 problem sets (8% each), 10 short assignments (1% each), 3 tests (12% each), and a comprehensive final exam (30%). Letter grades for the course will be based on the following scale: A, 90%-100%; B, 80%-89.99%; C, 70%-79.99%; D, 60%-69.99%; F, below 60%. It is important to recognize that your grade will be based **only** on your

performance on the 3 problem sets, the 10 short assignments, the 3 tests, and the comprehensive final exam. Individual extra credit assignments will **NOT** be made.

Problem Sets
Problem sets must be typed and must be submitted via email on the assigned due dates. A problem set may be submitted after the due date, but there will be a penalty of 10 points for each day that the submission is late. Once a problem set has been graded and returned to the class, no late submission will be accepted, and you will receive a grade of zero on that problem set. The first problem set will be due on February 19; the second, on March 19; and the third, on April 16.

Short Assignments, Tests, and Final Examination
The short assignments will be due via email on January 29, February 5, February 19, March 5, March 12, March 19, April 3, April 9, April 16, and May 3. The first test will be distributed on February 26 and due via email on March 1; the second test will be distributed on March 26 and due via email on March 29; and the third test will be distributed on April 23 and due via email on April 26. The comprehensive final exam will be distributed on May 6 (Reading Day) and due via email at the beginning of the exam time slot that is assigned to this course.

Academic Integrity
All students are required to read and abide by the Code of Student Academic Integrity. Violations of the Code of Student Academic Integrity, including plagiarism, will result in disciplinary action as provided in the Code. Definitions and examples of plagiarism are set forth in the Code and on the Student Conduct and Academic Integrity website. The Code is available from the Dean of Students Office or online at legal.uncc.edu/policies/up-407. Additional resources are available on the Student Conduct and Academic Integrity website. Please be aware that faculty may ask students to produce identification at examinations and may require students to demonstrate that graded assignments completed outside of class are their own work.

Disability Accommodations
Students in this course seeking accommodations to disabilities must first consult with the Office of Disability Services and follow the instructions of that office for obtaining accommodations.

Revision of Syllabus during Semester
The standards and requirements set forth in this syllabus may be modified at any time by the course instructor. Notice of such changes will be by announcement in class and by email.

Attendance
Students are expected to attend every class and remain in class for the duration of the session when it is safe to do so in accordance with University guidance about COVID-19. Failure to attend class or arriving late may affect your ability to achieve course objectives, which could affect your course grade. An absence—whether excused or unexcused—does not relieve a student of any course requirement. Regular class attendance is a student's obligation, as is a responsibility for all the work done during class meetings, including tests and written tasks.

Students are encouraged to work directly with their instructors regarding their absence(s). For absences related to COVID-19, please adhere to the following:

- **Complete your Niner Health Check** each morning.

- **Do not come to class if you are sick**. Please protect your health and the health of others by staying home. Contact your healthcare provider if you believe you are ill.

- **If you are sick**: If you test positive or are evaluated by a healthcare provider for symptoms of COVID-19, indicate so on your Niner Health Check to alert the University. Representatives from Emergency Management and/or the Student Health Center will follow up with you as necessary. Submit a copy of your Niner Health Check notification email to your instructors.

- **If you have been exposed** to COVID-19 positive individuals and/or have been notified to self-quarantine due to exposure, indicate so on your Niner Health Check to alert the University. Representatives from Emergency Management and/or the Student Health Center will follow up with you as necessary. Submit a copy of your Niner Health Check notification email to your instructors.

To return to class after being absent due to a period of **self-quarantine**, students should submit a copy of their Niner Health Check clearance email to their instructor(s). To return to class after being absent due to a COVID-19 **diagnosis**, students should submit an online request form to Student Assistance and Support Services (SASS). Supporting documentation can be attached directly to the request form and should be from a student's health care provider or the Student Health Center, clearly indicating the dates of absences and the date the student is able to return to class. Instructors will be notified of such absences.

If you are absent from class as a result of a COVID-19 diagnosis or quarantine, as instructor I will help you continue to make progress in the course by providing remote learning options and assignments on a case-by-case basis. The final decision for approval of all absences and missed work is determined by the instructor.

There will be no class meetings the week of February 8-12 (Spring Break). There will be no class meeting on April 30 (Day of Remembrance).

Course Withdrawals
The last day to withdraw from courses with grades of W is March 25. Students are expected to complete all courses for which they are registered at the close of the add/drop period. If you are worried about your ability to succeed in this course, then you should talk with me as soon as possible. University policy allows students only a limited number of opportunities to withdraw from courses. It is important for you to understand the financial and academic consequences of course withdrawals. For more information, see the UNC Charlotte policy on withdrawals at https://provost.uncc.edu/policies/withdrawal.

Recording of Class Sessions
Class sessions will all be audio- and/or video-recorded for the purposes of student-participant reference and access by other students enrolled in the same course (including students enrolled in different class sections or break-out groups). Student consent to being recorded during class is a condition of class participation. If you do not consent to being recorded during class, you will need to deactivate your video camera, keep your mute button activated, and participate only via the chat feature, but please note that such actions may have a negative impact on any portion of your grade that is based on class participation. Students are not permitted to make their own recordings of class sessions or to share or distribute University recordings of class sessions. Students with specific electronic recording accommodations authorized by the Office of Disability Services may record classes; however, the instructor must be notified of any such accommodation prior to recording. Any distribution of such recordings is prohibited.

Prohibition of Student Recording
Electronic video, image capture, and/or audio recording is not permitted during class, whether conducted in person or online, unless the student obtains permission from the instructor. If permission is granted, any distribution of the recording is prohibited. Students with specific electronic recording accommodations authorized by the Office of Disability Services do not require instructor permission;

however, the instructor must be notified of any such accommodation prior to recording. Any distribution of such recordings is prohibited.

Belk College of Business Diversity Statement
The Belk College of Business strives to create an inclusive academic climate in which the dignity of all individuals is respected and maintained. Therefore, we celebrate diversity that includes but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.

Outline of Topics and Reading Assignments
I assume that you have a basic knowledge of calculus and probability and statistics, so we will not be reviewing these topics in class. The material you need is covered in Chapters 2 & 3 of Stock and Watson (2019) or Stock and Watson (2015) and in Math Refreshers A, B, & C of Wooldridge (2020) or Appendices A, B, & C of Wooldridge (2016).

I.   Simple and Multiple Regression Analysis: Estimation
            Stock and Watson (2019) / *Stock and Watson (2015)* / Chapters 4 & 6
            Wooldridge (2020) / *Wooldridge (2016)* / Chapters 2 & 3
II.   Simple and Multiple Regression Analysis: Inference
            Stock and Watson (2019) / *Stock and Watson (2015)* / Chapters 5 & 7
            Wooldridge (2020) / *Wooldridge (2016)* / Chapters 4 & 5
III.   Nonlinear Regression Functions
            Stock and Watson (2019) / *Stock and Watson (2015)* / Chapter 8
            Wooldridge (2020) / *Wooldridge (2016)* / Chapter 6
            Wooldridge (2020), Chapter 7, pp. 221-239 / *Wooldridge (2016), Chapter 7, pp. 205-224*
IV.   Qualitative Dependent Variable Models
            Stock and Watson (2019) / *Stock and Watson (2015)* / Chapter 11
            Wooldridge (2020), Chapter 7, pp. 239-244 / *Wooldridge (2016), Chapter 7, pp. 224-231*
            Wooldridge (2020), Chapter 17, pp. 560-571 / *Wooldridge (2016), Chapter 17, pp. 525-536*
V.   Regression Analysis with Time Series Data
            Wooldridge (2020), Chapter 10, pp. 334-335 & pp. 339-345
            Wooldridge (2016), Chapter 10, pp. 312-313 & pp. 317-323
            Wooldridge (2020) / *Wooldridge (2016)* / Chapter 11
            Wooldridge (2020), Chapter 12, pp. 395-415 / *Wooldridge (2016), Chapter 12, pp. 373-391*
VI.   Introduction to Forecasting
            Stock and Watson (2019), Chapter 15, pp. 513-540
            Stock and Watson (2015), Chapter 14, pp. 523-551 & pp. 567-573
            Wooldridge (2020), Chapter 18, pp. 622-628 / *Wooldridge (2016), Chapter 18, pp. 586-592*
VII.   Trends and Breaks
            Stock and Watson (2019), Chapter 15, pp. 540-554
            Stock and Watson (2015), Chapter 14, pp. 551-567 & pp. 573-574
            Wooldridge (2020), Chapter 18, pp. 610-616 / *Wooldridge (2016), Chapter 18, pp. 574-580*
VIII.   Dynamic Causal Effects
            Stock and Watson (2019), Chapter 16 / *Stock and Watson (2015), Chapter 15*
            Wooldridge (2020), Chapter 10, pp. 335-338 / *Wooldridge (2016), Chapter 10, pp. 313-316*
IX.   Regression Analysis with Panel Data
            Stock and Watson (2019) / *Stock and Watson (2015)* / Chapter 10
            Wooldridge (2020) / *Wooldridge (2016)* / Chapters 13 & 14