

University of North Carolina-Chapel Hill
Econ 470-002: Econometrics
Credit: 3
MW: 11:15 AM–12:30 PM
Room: Gardner 008
Fall 2023

Instructor: Désiré Kédagni
Email: dkedagni@unc.edu (preferred way to communicate)
Office: 102 Gardner Hall
Office Hours: MW 9:30 AM – 10:30 AM

TA: Zhengrun Chen **Email:** zhengrun@unc.edu **Office Hours:** TR 4:00 – 5:00 PM EconAid Center (basement Gardner)

Course Description: Econometrics is the application of statistical methods and economic theory to the problem of identifying, estimating, and testing economic models. This course covers concepts and methods used in empirical economic research. Students will learn how to conduct and how to critique empirical studies in economics.

Prerequisites: ECON 400 and 410; a grade of C or better in ECON 400 and 410 is required.

Textbooks: There is one required textbook for this course: *Introductory Econometrics: A Modern Approach* by J.M. Wooldridge, 6th/7th Edition.

Learning Objectives: In this course, students are going to

- study and learn the concepts of simple vs. multiple linear regressions, endogeneity, instrumental variables, hypothesis testing, etc.
- interpret regression outputs, analyze relationships between different variables, identify causal relationships from simple associations, provide an economic analysis using real-world data sets, etc.
- learn how to use STATA to do statistical and econometric analysis.

Course Outline: The following is a list of topics that we will cover over the course of the semester. Note that depending on our progress, we may not cover the last few topics.

1. Simple Linear Regression: Wooldridge Chapter 2
2. Multiple Linear Regression: Wooldridge Chapter 3
3. Multiple Linear Regression, Inference: Wooldridge Chapter 4
4. Multiple Linear Regression, OLS Asymptotics: Wooldridge Chapter 5
5. Multiple Linear Regression, Further Issues: Wooldridge Chapter 6
6. Dummy Variables: Wooldridge Chapter 7
7. Heteroskedasticity: Wooldridge Chapter 8
8. Instrumental Variables: Wooldridge Chapter 15

9. (Time Permitting) Models with Panel Data: Chapter 10
10. (Time Permitting) Models with Selection

Evaluation: Your evaluation in the course will be based on:

1. **Problem Sets:** We will have at least 3 problem sets during the semester. The problem set with the lowest grade will not be considered when computing your grade.
2. **Course Participation:** Most lectures will include in-class questions. Unexcused absences from class will result in a zero grade for in class participation for that lecture.
3. **Exams:** We will have two midterm exams. The final exam will be cumulative, and will be administered during finals week.

| | |
|----------------------------------|---|
| Labor Day | 09/04 |
| Well-being Day | 09/25 |
| Midterm Exam 1 | M 10/02 |
| Midterm Exam 2 | W 11/1 |
| <i>Thanksgiving Break</i> | <i>11/22-11/24</i> |
| Last Day of Classes | 12/06 |
| Reading Day | 12/13 |
| Final Exam | Date: F 12/15 Hour: 12:00 PM Gardner 008 |

Important dates

<https://catalog.unc.edu/academic-calendar/>

<https://registrar.unc.edu/academic-calendar/final-examination-schedule-fall/>

Statistical Software: One central goal of this course is to provide the students with the knowledge to use and correctly interpret the output of a statistical software package. For that we will use STATA. It can be accessed from library computers, from virtual lab, or it can be purchased with a 6 months student license (<https://www.stata.com/order/new/edu/profplus/student-pricing/>. The version: Stata/BE is sufficient for this course, and is priced at \$48). You can contact the UNC library system or UNC ITS if you have issues with accessing Stata. Issues with access to Stata will not be accepted as an excuse for not turning in a problem set.

Grading:

| | |
|---------------------|-----|
| Participation | 5% |
| Problem Sets | 20% |
| Midterm 1 | 20% |
| Midterm 2 | 25% |
| Final | 30% |

Grading scale:

| | |
|----------|--------|
| A | 93-100 |
| A- | 90-92 |
| B+ | 87-89 |
| B | 83-86 |
| B- | 80-82 |
| C+ | 77-79 |
| C | 74-76 |
| C- | 70-73 |
| D+ | 67-69 |
| D | 60-66 |
| F | ≤ 59 |

Course Delivery: In-person. Any temporary modality changes would be announced via email and the course website.

Canvas (Course Website): You can access your Canvas course in the following way:

- Navigate to <https://edtech.unc.edu/service/canvas/> and login using your Onyen and password.

I will use Canvas to post the syllabus, assignments, announcements and grades.

Attendance: Students are required to attend all classes. **Please, if you are sick, stay home and send me an email.** Attendance may be taken at any time, especially when a number of students miss the class, in one of the following ways: 1) An attendance sheet will be signed by each student during the class. If a student is found to have signed for others, his/her attendance for that class will be invalid. 2) Call on students using the class roll. 3) Attendance maybe taken for classes when homework assignments/exams are due or returned.

No laptop or cellphone should be used during classes. You will be asked to leave the class if I see you using laptops during classes. Using cellphones in class may lead to an absence depending on the situation.

Homework: Late homework will not be accepted. Please, submit your homework electronically to the TA and copy me. Students may work together on homework. However, each student is required to write up and submit an independent answer sheet. This means that **word-for-word** copies will not be accepted.

Exams: A student who misses an exam without making prior arrangements will receive a grade of zero on that exam. If any circumstances that will prevent you from taking an exam arise, please talk to me as soon as you can.

Academic Integrity: This course will be consistent with university policies: <https://writingcenter.unc.edu/esl/resources/academic-integrity/>; <https://studentconduct.unc.edu/>.

Classroom & Email Etiquette: Please be considerate of your peers and me. If you do not respect those around you, I may ask you to leave the classroom.

Here are a few simple rules that I would like you to pay attention to:

1. No distracting cell phone use in class.
2. No recording of class without authorization from instructor.
3. Please arrive on time and do not have conversations with others during the class.
4. Emails should be written professionally. I give no guarantee that I will respond to last minute emails before key deadlines.

Miscellaneous: Students who are having trouble understanding any of the materials should attend office hours. Please do not hesitate to ask questions. I know that it is sometimes difficult to speak up during class. However, I need to know when I am going too fast or not being clear. Please ask questions – you will perform a service for yourself, for your classmates, and for me.

University of North Carolina at Chapel Hill
Information for Undergraduate Classes
Summer & Fall 2023

Syllabus Changes

The instructor reserves the right to make changes to the syllabus including project due dates and test dates. These changes will be announced as early as possible.

Attendance Policy

University Policy: As stated in the University's [Class Attendance Policy](#), no right or privilege exists that permits a student to be absent from any class meetings, except for these University Approved Absences:

1. Authorized University activities: [University Approved Absence Office \(UAAO\) website](#) provides information and [FAQs for students](#) and [FAQs for faculty](#) related to University Approved Absences
2. Disability/religious observance/pregnancy, as required by law and approved by [Accessibility Resources and Service](#) and/or the [Equal Opportunity and Compliance Office](#) (EOC)
3. Significant health condition and/or personal/family emergency as approved by the [Office of the Dean of Students](#), [Gender Violence Service Coordinators](#), and/or the [Equal Opportunity and Compliance Office](#) (EOC).

Instructors may work with students to meet attendance needs that do not fall within University approved absences. For situations when an absence is not University approved (e.g., a job interview, illness/ flu or club activity), instructors are encouraged to work directly with students to determine the best approach to missed classes and make-up assessment and assignments.

Honor Code

All students are expected to follow the guidelines of the UNC Honor Code. In particular, students are expected to refrain from "lying, cheating, or stealing" in the academic context. If you are unsure about which actions violate the Honor Code, please see me or consult studentconduct.unc.edu.

Acceptable Use Policy

By attending the University of North Carolina at Chapel Hill, you agree to abide by the University of North Carolina at Chapel Hill policies related to the acceptable use of IT systems and services. The Acceptable Use Policy (AUP) sets the expectation that you will use the University's technology resources responsibly, consistent with the University's mission. In the context of a class, it's quite likely you will participate in online activities that could include personal information about you or your peers, and the AUP addresses your obligations to protect the privacy of class participants. In addition, the AUP addresses matters of others' intellectual property, including copyright. These are only a couple of typical examples, so you should consult the full [Information Technology Acceptable Use Policy](#), which covers topics related to using digital resources, such as privacy, confidentiality, and intellectual property.

Additionally, consult the [Safe Computing at UNC](#) website for information about data security policies, updates, and tips on keeping your identity, information, and devices safe.

Accessibility Resources and Service

[Accessibility Resources and Service](#) (ARS – ars@unc.edu) receives requests for accommodations, and through the Student and Applicant Accommodations Policy determines eligibility and identifies reasonable accommodations for students with disabilities and/or chronic medical conditions to mitigate or remove the barriers experienced in accessing University courses, programs and activities.

ARS also offers its Testing Center resources to students and instructors to facilitate the implementation of testing accommodations.

Faculty and instructors with any concerns or questions about accommodations and/or their implementation, are invited to [reach out to ARS](#) to discuss.

Counseling and Psychological Services

UNC-Chapel Hill is strongly committed to addressing the mental health needs of a diverse student body. The [Heels Care Network](#) website is a place to access the many mental health resources at Carolina. CAPS is the primary mental health provider for students, offering timely access to consultation and connection to clinically appropriate services. Go to their website <https://caps.unc.edu/> or visit their facilities on the third floor of the Campus Health building for an initial evaluation to learn more. Students can also call CAPS 24/7 at 919-966-3658 for immediate assistance.

Title IX and Related Resources

Any student who is impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking is encouraged to seek resources on campus or in the community. Reports can be made online to the EOC at <https://eoc.unc.edu/report-an-incident/> or by contacting the University's Title IX Coordinator (Elizabeth Hall, titleixcoordinator@unc.edu) or the Report and Response Coordinators in the Equal Opportunity and Compliance Office (reportandresponse@unc.edu). Confidential resources include Counseling and Psychological Services and the Gender Violence Services Coordinators (gvsc@unc.edu). Additional resources are available at safe.unc.edu.

Policy on Non-Discrimination

The University is committed to providing an inclusive and welcoming environment for all members of our community and to ensuring that educational and employment decisions are based on individuals' abilities and qualifications. Consistent with this principle and applicable laws, the University's [Policy Statement on Non-Discrimination](#) offers access to its educational programs and activities as well as employment terms and conditions without respect to race, color, gender, national origin, age, religion, genetic information, disability, veteran's status, sexual orientation, gender identity or gender expression. Such a policy ensures that only relevant factors are considered, and that equitable and consistent standards of conduct and performance are applied.

If you are experiencing harassment or discrimination, you can seek assistance and file a report through the Report and Response Coordinators (email reportandresponse@unc.edu or see additional contact info at safe.unc.edu) or the Equal Opportunity and Compliance Office at <https://eoc.unc.edu/report-an-incident/>.

Undergraduate Testing Center

The College of Arts and Sciences provides a secure, proctored environment in which exams can be taken. The center works with instructors to proctor exams for their undergraduate students who are not registered with ARS and who do not need testing accommodations as provided by ARS. In other words, the Center provides a proctored testing environment for students who are unable to take an exam at the normally scheduled time (with pre-arrangement by your instructor). For more information, visit <http://testingcenter.web.unc.edu/>.

Learning Center

Want to get the most out of this course or others this semester? Visit UNC's Learning Center at <http://learningcenter.unc.edu> to make an appointment or register for an event. Their free, popular programs will help you optimize your academic performance. Try academic coaching, peer tutoring, STEM support, ADHD/LD services, workshops and study camps, or review tips and tools available on the website.

Writing Center

For free feedback on any course writing projects, check out UNC's Writing Center. Writing Center coaches can assist with any writing project, including multimedia projects and application essays, at any stage of the writing process. You don't even need a draft to come visit. To schedule a 45-minute appointment, review quick tips, or request written feedback online, visit <http://writingcenter.unc.edu>.