

AEDECON 7140
Applied Econometrics II
Spring 2022

COVID-19 Related Information (as of March 01, 2022; please note that the guidance below may change without notice following OSU's official and periodical announcements)

- Visit the OSU Safe and Healthy Buckeyes website for all official information and guidance: <https://safeandhealthy.osu.edu/>
- Well-fitting masks are required in classrooms and all other indoor spaces at all times, unless you are in your own office alone with closed door.
- Try your best to sit on the same seat for the entire semester. This helps the contact tracing team to more easily identify close contacts in the event of a positive COVID-19 test.
- Students who test positive should forward me a statement of support for short-term academic flexibility. If the test was at a university testing facility, the students will automatically receive this statement. Students who test positive at other testing facilities can work with Student Life Disability Services (SLDS) to acquire the statement of support.
- Suggestions are welcome as to what else we can do to enable the best learning experience while helping each other and keeping everybody safe.
- If any content in this syllabus is at direct odds with information in this section, this section should be followed.

Course Description

This course carries 3 semester hours. It covers contemporary topics pertaining to the application of econometric methods to empirical problems in agricultural, environmental, and development economics.

Lecture Format

Lectures: Tuesdays and Thursdays, 2:20-3:40pm; in person in Agricultural Administration Building 246, Columbus Campus

March 2 – April 25, 2022, exclusive of holidays (first day for *this* course is March 3)

Lab: Mondays 9:35-11:35am; in person in Agricultural Administration Building 05, Columbus Campus

Self-administered Lab: 2 hours a week

Instructor

Wuyang Hu hu.1851@osu.edu

Phone: 614.488.4416

232 Ag. Admin Bldg., Columbus OH, 43210

Office hour: Wednesdays, 9:30-10:45pm, or by appointment;

Office hour is 100% at distance learning via CarmenZoom

<https://osu.zoom.us/j/96786990344?pwd=dmw2M0FTUS9seHpNOFN0YXpoSDZpQT09>

Meeting ID: 967 8699 0344

Password: 980777

One tap mobile

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221.122.88.195 (China)

115.114.131.7 (India Mumbai)

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213.19.144.110 (Amsterdam Netherlands)

213.244.140.110 (Germany)

103.122.166.55 (Australia Sydney)

103.122.167.55 (Australia Melbourne)

64.211.144.160 (Brazil)

69.174.57.160 (Canada Toronto)

65.39.152.160 (Canada Vancouver)

207.226.132.110 (Japan Tokyo)

149.137.24.110 (Japan Osaka)

Meeting ID: 967 8699 0344

Password: 980777

Teaching Assistant

Yining Wu wu.4912@buckeyemail.osu.edu

Hours by email appointment; all office hour meetings are virtual via CarmenZoom

Prerequisites

AEDECON 7130 and ECON 8712.

Learning Outcomes

Successful students will have the ability to:

- Understand how econometric methods link assumptions and theory to explain economic tradeoffs.
- Develop a deeper understanding of the importance of heterogeneity to applications in agricultural, environmental, and development economics.
- Be able to effectively convert economic problems into appropriate methods for analysis and communicate findings to others.

Students meet the learning outcomes by attending all lectures, mastering the material covered in lectures, completing all homework assignments, and thoroughly preparing for any examinations.

Textbooks/Readings/Software

William Greene. *Econometrics Analysis 8th Edition*. W.W. Pearson ISBN-13: 978-0134461366.

Kenneth Train. *Discrete Choice Methods with Simulation 2nd Edition*. Cambridge University Press ISBN-13: 978-052176655. Free online: <https://eml.berkeley.edu/books/choice2.html>

Miguel Hernán and Jamie Robins. *Causal Inference: What If*. Chapman & Hall Not for purchase and only free online: <https://www.hsph.harvard.edu/miguel-hernan/causal-inference-book/>

Additional materials will be handed out throughout the class.

Stata is the software used mostly in lecturing but students should feel free to use whichever software they prefer in completing homework assignments and/or all exams.

Course Technology

Although all official lectures will be delivered in person, upon mutual agreement between instructor and students, some other meetings (e.g., office hours) may be conducted virtually over zoom. In order to participate, you will need: a) a computer; b) high-speed internet connection; and c) webcam and microphone, fully installed and tested. You will need to use BuckeyePass multi-factor authentication to access your courses in Carmen. For help with your password, university email, Carmen, or any other technology issues, questions, or requests, you can contact the IT Service Desk at 614-688-4357 (HELP).

Course Topics

Review of fundamental econometric theory

- Properties of an estimator
- Continuous versus discrete variables
- Instrumental variable estimation

Discrete choice analysis

- Experimental design
- Binary and multinomial choices
- Simulation-based estimation

Causal inference

- Design of an experiment
- Nonparametric inference based on counterfactuals
- Introduction to parametric g-estimation (when time allows)

Special topics (when time allows)

- (Large) systems of equations
- Biases in primary data

Evaluation

3 Homework Assignments	30%
Participation bonus (see related section below)	5%
1 Oral Examination	15%
1 Final Examination	55%
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Total	100%

Final grades will be assigned as follows:

93-100+ ≡ A 90-92.99 ≡ A- 87-89.99 ≡ B+ 83-86.99 ≡ B 80-82.99 ≡ B-
77-79.99 ≡ C+ 73-76.99 ≡ C 70-72.99 ≡ C- 67-69.99 ≡ D+ 60-66.99 ≡ D
Less than 60 ≡ E

Homework Assignments

There will be three individual homework assignments and each assignment is weighted equally (10% each). Typically, these assignments will be handed out during a lecture, and the assignments will involve applications of the techniques introduced in the class. The use of computer will be required to complete all assignments. Group discussion is encouraged for these assignments, but each individual student is expected to submit his/her **own work separately**. Homework assignment answers must be submitted via Carmen in electronic format (e.g., MS Word) or as a graphic image produced from a scan of handwritten answers, provided the answers are clearly legible. You can easily scan your answers by using Notes App or something similar on a smart phone or iPad. Homework assignment answers should be submitted by **3:00am** on the due date to be considered “on time.” Each assignment is graded out of 100 points. Late submissions will receive a penalty of 25 points per day being late.

Each homework assignment will be graded on a 0-100 point scale. However, only the percentage contribution to your final grade will be recorded in the Carmen gradebook. Each homework assignment accounts for 10% of your final course grade. Thus, if you receive a grade of 95 on a homework, 9.5 (95×10%) will be recorded in the Carmen gradebook and if you fail to turn in a homework assignment, 0 will be recorded in the Carmen gradebook.

Examinations

Each student will participate in a one-on-one oral exam with the instructor via Zoom. The exam will take place during the last week of class. Although the exam will be “open book”, there will be practically little time for you to search for any answers from books or note. Plenty of sample oral exam questions will be introduced throughout the lecture. As a result, engagement in every lecture is important. Specific time and grading rubric will be distributed prior to the exam.

The final exam will be take-home occurring on Wednesday April 27, 2022. More details will be announced later with at least one-week notice. Students who are unable to write an exam because

of illness or other legitimate reasons, should contact the instructor as soon as possible to make alternative arrangements. The usual university regulations apply in these situations.

The oral and final examinations will be initially graded on a 0-100 scale. However, only the percentage contribution to your final grade will be recorded in the Carmen gradebook. Thus, if you receive a score of 90 on the oral exam, 13.5 (90×15%) will be recorded in the Carmen gradebook, and if you receive 93 on the final examination, 51.15 (93×55%) will be recorded in the Carmen gradebook.

Participation/Attendance Policies

Attending and actively participating in the lectures is critical to success in this class. Students who request office hour meetings will be asked to reflect on their attendance and participation.

You should be sure to check your email at least twice a day during the semester and your Carmen at least twice a week. These will contain important course-related information.

To encourage active participation during lecture or labs, there are up to five bonus points for class participation/attendance. These points can be earned through means such as class discussion (all students as a group), (individually) answering pop-up questions, or other related activities.

University, College and Departmental Policies

Please read and familiarize yourself with the following content.

Academic Misconduct

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct at <http://studentconduct.osu.edu>

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute Academic Misconduct.

The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: Any activity that tends to compromise the academic integrity of the University, or subvert the educational process. Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code

of Student Conduct is never considered an excuse for academic misconduct, so you should review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If the instructor suspects that a student has committed academic misconduct in this course, the instructor is obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Disability Accommodations

The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process, managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let the instructor know immediately so that the options can be discussed privately. To establish reasonable accommodations, the instructor may request that you register with Student Life Disability Services. After registration, make arrangements with the instructor as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Diversity and Discrimination

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

- Online reporting form at equity.osu.edu,
- Call 614-247-5838 or TTY 614-688-8605,
- or email equity@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have

reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

This course adheres to The Principles of Community adopted by the College of Food, Agricultural, and Environmental Sciences. These principles are located on the Carmen site for this course; and can also be found at <https://go.osu.edu/principlesofcommunity>. For additional information on Diversity, Equity, and Inclusion in CFAES, contact the CFAES Office for Diversity, Equity, and Inclusion (<https://equityandinclusion.cfaes.ohio-state.edu/>). If you have been a victim of or a witness to a bias incident, you can report it online and anonymously (if you choose) at <https://studentlife.osu.edu/bias/report-a-bias-incident.aspx>.

Grievances

According to University Policies, if you have a problem with this class, you should seek to resolve the grievance concerning a grade or academic practice by speaking first with the instructor or professor. Then, if necessary, take your case to the department chairperson, college dean or associate dean, and to the provost, in that order. Specific procedures are outlined in Faculty Rule 3335-7-23. Grievances against graduate, research, and teaching assistants should be submitted first to the supervising instructor, then to the chairperson of the assistant's department.

Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, and difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life Counseling and Consultation Services (CCS) by visiting ccs.osu.edu or calling (614) 292- 5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at (614) 292-5766 and 24 hour emergency help is also available through the 24/7 National Prevention Hotline at 1-(800)-273-TALK or at suicidepreventionlifeline.org.

David Wirt, wirt.9@osu.edu, is the CFAES embedded mental health counselor. He is available for new consultations and to establish routine care. To schedule with David, please call 614-292-5766. Students should mention their affiliation with CFAES when setting up a phone screening.

Content Warning

Some content in this course may involve media that may elicit a traumatic response in some students due to descriptions of and/or scenes depicting acts of violence, acts of war, or sexual violence and its aftermath. If needed, please take care of yourself while watching/reading this material (leaving (virtual) classroom to take a water/bathroom break, debriefing with a friend, contacting a confidential Sexual Violence Advocate 614-267-7020, or Counseling and Consultation Services at 614-292-5766 and contacting the instructor if needed). Expectations are that we all will be respectful of our classmates while consuming this media and that we will create a safe space for each other. Failure to show respect to each other may result in dismissal from the class.

Lyft Ride Smart (when not contracting social distancing recommendations/regulations)

Lyft Ride Smart at Ohio State offers eligible students discounted rides, inside the university-designated service area, from 9 p.m. to 3 a.m. Each month, 10,000 discounted rides will be made available on a first-come, first-served basis with the average cost expected to be \$2 or less. Prices may be impacted by distance, traffic, time of day, special events and prime time surcharges. To qualify for program discounts, users must select “shared ride” when booking in the Lyft app. When using ride sharing, remember to visually confirm vehicle info/descriptions in the company app and ask the driver to say who they are picking up.

Safety and Health

All students, faculty and staff are required to comply with and stay informed university safety and health guidance (<https://safeandhealthy.osu.edu>), which includes wearing a face mask in any indoor space and maintaining a safe physical distance at all times. Non-compliance will result in a warning first, and disciplinary actions will be taken for repeated offenses.

Copyright

The materials used in connection with this course are subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.