

Faculty Liberal Arts and Professional Studies
Department of Economics

Course: GS/ECON 5025A 3.0 – Applied Econometrics
Course Webpage: <https://eclass.yorku.ca>
Term: Fall 2023

COURSE INSTRUCTOR

Professor: **Djogbenou, Antoine**
Email: daa@yorku.ca
Phone: (416) 736-2100 Ext. 77027

TIME AND LOCATIONS

In-Person Lectures: Wednesday 11:30 AM – 2:30 PM, Life Sciences Building 107
In-Person Office Hours: Wednesday 2:30 PM – 4:30 PM or by appointment, Vari Hall 1048

TECHNICAL REQUIREMENTS FOR TAKING THE COURSE

All classes will be in person. The sessions are in the form of a lecture by the professor. Also, please note that exams will be in person. The course materials will be available on the course's eClass website. The office hours are also in-person. Please review the syllabus to determine how the class meets, office hours, and lectures will be conducted.

It is possible that following York University recommendations, lectures, tests and office hours become online. In those circumstances, you will interact with the course materials, the course director, and one another through eClass and Zoom platforms. The Zoom link for lectures and tests will then be accessible through eClass. For these meetings via Zoom, please note the following:

- Zoom is hosted on servers in the U.S. This includes recordings done through Zoom.
- If you have privacy concerns about your data, provide only your first name or a nickname when you join a session.
- The system is configured in a way that all participants are automatically notified when a session is being recorded. In other words, a session cannot be recorded without you knowing about it.

To attend and participate in the virtual meetings, it is required that you have a computer with webcam and microphone or a smart device with these features. Here are some useful links for student computing information, resources and help:

[Student Guide to eClass](#)

[Zoom@YorkU Best Practices](#)

[Zoom@YorkU User Reference Guide](#)

[Computing for Students Website](#)

[Student Guide to eLearning at York University](#)

In the case of online test taking, you will need a stable, higher-speed Internet connection. To determine internet connection and speed, there are online tests, such as [Speedtest](#), that can be run.

ORGANIZATION OF THE COURSE

Please note that you are expected to meet at the scheduled times in class on campus. If the classes move online, the course will be run synchronously, i.e., with 'live' sessions scheduled according to your meeting times via Zoom.

Students will find the slides related to the covered topics on the course webpage before each class. More details and explanations on the topics are provided during the lectures. I will use the class time for interactive activities to answer questions related to the presentation and/or examples to illustrate the theoretical concepts.

I may record some videos and make them available for student viewings. Please note that the recordings should be used for educational purposes. Students do not have permission to duplicate, copy and/or distribute the recordings outside of the class (these acts can violate not only copyright laws but also FIPPA). All recordings will be destroyed after the end of classes.

COURSE DESCRIPTION

This course is the first course in econometrics at the graduate level. Students are expected to have had at least one econometrics course at the undergraduate level and to be familiar with matrix algebra and elementary statistics. A broad range of econometric models will be covered in the course. As nothing beats practice, as a learning tool, students need to practice by solving many econometric problems. The practice works include exercises involving statistical software. Students may use their favorite software (e.g., STATA, SAS, R or MATLAB). Announcements, lecture slides, questions, problems, data, and codes will be posted on the course website, which students are invited to consult regularly.

At the end of this course, students will be able to conduct their econometric research using economic data independently. Emphasis will be placed on the modeling assumptions and their implication for the validity of econometric models.

THE REQUIRED TEXTBOOK

Greene, W., 2017. *Econometric Analysis*, Pearson, New York University, 8th Edition, New York. ISBN: 978-0-134461-36-6

The course will be based on this textbook available in hard copy and eBook format at the bookstore. See the [York's bookstore webpage](#). Additional readings may be assigned or recommended during the course. Some other useful textbooks are:

Angrist, J. D., and J.-S. Pischke, 2009. *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press.

Davidson, R., and J. MacKinnon, 2004. *Econometric Theory and Methods*, Oxford University Press.

Gourieroux, C., and A. Monfort, 1995. *Statistics and Econometric Models*, Cambridge University Press.

Gujarati, D., 2011. *Econometrics by Example*, Palgrave Macmillan.

Wooldridge, J. M., 2009. *Econometric Analysis of Cross Section and Panel Data*, Mass., MIT Press.

Wooldridge, J.M., 2012. *Introductory Econometrics: A Modern Approach*, South-Western, Thomson Learning.

EVALUATION

Some Important Dates

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|----------------|---------------------|
| • Assignment 1 | October 4, 2023 |
| • Midterm Exam | October 18, 2023 |
| • Assignment 2 | November 29, 2023 |
| • Final Exam | December 7-20, 2023 |

Weighting of the Course

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|----------------|------|
| • Assignments | 20 % |
| • Midterm Exam | 30 % |
| • Final Exam | 50 % |

October 5 and November 30 are the due dates of the assignments. Assignments received later than the due date will not be accepted. Note also that the final exam will be cumulative.

Grading System: Grades will be awarded in accordance with the York university grading system. The letter grade system is the fundamental system of assessment of course performance in graduate programs at York University. Assignments and exams will bear either a letter grade designation or a corresponding number grade (e.g. A+ = 90 to 100, A = 85 to 89, A- = 80 to 84, B+ = 75 to 79, etc.) For the description of the grading scheme and feedback policy, see:

<https://www.yorku.ca/gradstudies/students/current-students/regulations/graduate-courses-and-grading/>

ASSIGNMENT SUBMISSION, LATENESS PENALTIES AND MISSED TESTS

Assignment Submission: Proper academic performance depends on students doing their work, not only well, but on time. Accordingly, assignments for this course must be received on the due date specified for the assignments.

Lateness Penalty: Assignments received later than the due date will not be accepted and will be given a grade zero. Exceptions to the lateness penalty for valid reasons such as illness, compassionate grounds, etc., may be entertained by the Course Instructor but will require supporting documentation (e.g., a doctor's letter). If a student misses the assignments, and have a documented excuse, the final exam will carry the extra weight.

Missed Exams: If a student misses the midterm, and have a documented excuse, the final exam will also carry the extra weight. There will be no make-ups for the midterm exam. A deferral for the final exam will be granted only for with a documented reason, such as illness, compassionate grounds, etc., which is confirmed by supporting documentation (e.g., doctor's letter).

These students must fill out the Deferred Standing Agreement form and submit it along with all original supporting documentation to the Department of Economics within seven business days of the original exam date. See <https://myacademicrecord.students.yorku.ca/deferred-standing> for details.

OUTLINE

Part I: Regression Modeling

1. Review: Probability, Distribution and Matrix Algebra (Greene, Appendices A&B/ Sept. 6 & Sept. 13)
2. The Linear Regression Model and Least Squares (Greene 2&3/ Sept. 13 & Sept. 20)
3. Statistical and Asymptotic Properties of the Least Squares Estimator (Greene 4/ Sept. 27 & Oct. 4)
4. Hypothesis Testing (Greene 5/ Oct. 25 & Nov. 1)

Part II: Instrumental Variables and Generalized Regression

5. Endogeneity and Instrumental Variable Estimation (Greene 8/ Nov. 8)
6. Generalized Regression Model (Greene 9/ Nov. 15)

Part III: Models for Panel Data and Maximum Likelihood Estimation

7. Models for Panel Data (Greene 11/ Nov. 22)
8. Maximum Likelihood Estimation (Greene 14/ Nov. 29)

Note: This lecture schedule is a guide. Dates and coverage may vary given time constraints.

OTHER IMPORTANT COURSE INFORMATION FOR STUDENTS

All students are expected to familiarize themselves with the information on Academic Standards, Curriculum & Pedagogy.

Academic honesty and integrity: In this course, we strive to maintain academic integrity to the highest extent possible. Please familiarize yourself with the meaning of academic integrity by completing SPARK's Academic Integrity module at the beginning of the course. Breaches of academic integrity range from cheating to plagiarism (i.e., the improper crediting of another's work, the representation of another's ideas as your own, etc.). All instances of academic dishonesty in this course will be reported to the appropriate university authorities, and can be punishable according to the Senate Policy on Academic Honesty.

Additional important information can be found on the Senate Committee webpage; <http://secretariat-policies.info.yorku.ca/> :

- Ethics Review Process for research involving human participants
- Course requirement accommodation for students with disabilities, including physical, medical, systemic, learning and psychiatric disabilities.
- Student Conduct Standards
- Religious Observance Accommodation

IMPORTANT DATES

Information on important dates for graduate students are available at <https://www.yorku.ca/gradstudies/students/current-students/registration-enrolment/important-dates/>