

Course Outline
Econ 490.006: Seminar in Applied Economics
Winter II 2024/25
Vancouver School of Economics, UBC

Classes: Monday, Wednesday and Friday 3:30 PM – 4:30 PM
Class Location: CHEM-Floor B1-Room C124

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Student Hours: [Schedule an Appointment](#)

TA: Lia Braga
Email: liabraga@student.ubc.ca
Student Hours: TBD
Location: TBD

Prerequisites: This course is restricted to fourth-year students with a declared BA major Economics. Students must have successfully completed all of ECON 325 & 326 and one of ECON 301/304 and ECON 302/305.

CALENDAR DESCRIPTION: Selected problems and issues in the theory and practice of Economics. Each section will focus on a different field. Restricted to Economics Majors, and Combined Majors in Economics their final academic session.

LEARNING OUTCOMES:

1. Develop a high level of proficiency in using analytical statistical software (specifically Stata/SE 18) to conduct empirical econometrics analysis;
2. Read published academic economic literature to understand the central argument, interpret the empirical methods and the results that support that argument;
3. Formulate applied econometric questions and choose appropriate empirical approaches to answering those questions;
4. Identify and download appropriate data to address specific econometric problems and decipher the data user guide/codebook for that data;
5. Identify and manipulate explanatory/control variables for econometric analysis, including qualitative, ranked quantitative, and unranked quantitative variables;
6. Interpret the results of the econometrics analysis: coefficients, standard errors, p-values, R^2 , F-stats, and confidence intervals etc.;
7. Conduct appropriate post-regression tests and interpret the results of those tests: serial correlation, heteroskedasticity, multicollinearity, non-linearity, omitted variable bias, and outliers;
8. Create publication-quality graphs and tables that illustrate the results of econometric analyses;
9. Effective communication of economic narratives and empirical results in both written and in oral presentation;
10. Successful approaches to teamwork, working collaboratively and cooperatively, including effective communication and conflict resolution in a teamwork environment.

COURSE DESCRIPTION: Two hundred and fifty years ago the wealthiest country in the world was at most four times richer than the poorest country in the world. Today the richest country is almost 100 times richer than the poorest. The goal of research you will undertake in this course is to help answer the question: Why have some countries grown so quickly over the long run while others have not? In answering this question, we will focus on interpreting the existing empirical theory and evidence, as well as testing some long-run growth models of our own using panel data analysis. This is a group learning section of ECON 490 meaning that all students will conduct their research in teams of three. Students who are not comfortable with independent research and/or the use of statistical software, or who would like to build up their teamwork skills will appreciate the research approach in this ECON 490 section.

APPROACH TO LEARNING: The goal of this course is to help you learn how to think, write, and speak like an economist. You will be collaboratively engaging in team research that culminates in an original, high-quality, applied economics paper at the end of the term. This process is designed to replicate the process followed by your professors in producing co-authored applied econometric research. Stata skills will be acquired through self-directed learning via Jupyter Notebooks over the first half of the term. Those skills will be assessed via weekly class tests. You will produce an annotated bibliography (independently) and undertake an empirical analysis (as a team) that will ultimately result in a final paper and presentation. Teams will meet during lecture time and will be expected to meet independently outside of the class times as needed.

REQUIRED MATERIALS AND EQUIPMENT:

Equipment: Every student is required to have access to a laptop computer that they can bring to class for the weekly tests. While it is not required that you have a laptop outside of the test days, it will be very difficult to undertake your research without a personal computer.

Software and tools: You will need to have access to these software and tools in the first week of the term.

1. Download and install your [free version of Stata 18](#) and familiarise yourself with that tool. You will find it under the category of “Teaching & Learning Software”.
2. Follow the instructions on this [COMET page](#) to install the Stata kernel on your personal computer.
3. Using the form [here](#), request an @student.ubc.ca email address that you will need to access the MS Teams platform. The join code for our team is n3iz29c.
4. Download and install the [MS Teams application](#) onto your personal computer and join the team for our class using the code: [TBD]
5. Download and install the [MS One Drive application](#) which will create a new OneDrive folder in your directory.
6. Install the MS Teams app on your phone to stay on top of Team and Class communication.

Data: Tests will be conducted using data from the [Penn World Tables](#). Please download this data in Stata format before the first test on January 10th. You will also be accessing data using the [World Bank Databank](#).

Readings: The following paper must be read within the first two weeks of term to help lay the foundation for your research. You will read many, many other papers on your specific topic once you

have made that decision. Please do not skip the sections on econometric theory, you will need that information for your own econometric work.¹

1. Mankiw, Romer and Weil (1992) "[A Contribution to the Empirics of Economic Growth](#)" *The Quarterly Journal of Economics* 107(2) pp. 407-437.

COMMUNICATION: We will be using MS Teams for all communication throughout this course. If you have general Stata questions or questions regarding any other course material, please start a new conversation on the MS Teams page and tag either your TA or your instructor. Email communication should be reserved for questions that contain private information (please do not write on Canvas Messenger). Once you are split into teams for the final project your team should communicate exclusively through your MS Teams page; this is a graded component of the course and ensures that the progress of teams can be monitored.

CLASS TIMES: Attendance will be taken in every class throughout the term. For classes that occur before the groups are created in week three, this information will be used to determine your placement in a team; students who do not attend the lectures will be placed in groups with other students who also did not attend. Once team meetings begin this attendance will be used for the participation grade (see below). Finally, attendance will be taken into consideration for the writing of letters of reference, should you need one in the future.

KEY DATES: Please see the table below for the topic and objectives for each test.

Assessment	Dates	Platform	Responsibility
Test #1 (0%)	January 10	Stata/ Canvas Quiz	Individual
Test #2 (3%)	January 17	Stata/ Canvas Quiz	Individual
Test #3 (3%)	January 24	Stata/ Canvas Quiz	Individual
Test #4 (3%)	January 31	Stata/ Canvas Quiz	Individual
Test #5 (3%)	February 7	Stata/ Canvas Quiz	Individual
Test #6 (3%)	February 14	Stata/ Canvas Quiz	Individual
Test #7 (3%)	February 28	Stata/ Canvas Quiz	Individual
Annotated Bibliography (12%)	March 7	Canvas Assignment	Individual
Econometric Files (10%)	March 21	Canvas Assignment	Team
Poster Conference Presentation (10%)	April 4	Iona 302	Team & Individual
Final Paper & Econometric Files (30%)	April 11	Canvas Assignment	Team

¹ I have also placed [Economic Growth](#), by David Weil and [Introduction to Modern Economic Growth](#) by Daron Acemoglu in the Online Library Course Reserves. These books will be useful when choosing a project topic.

ASSESSMENT METHODS: Your final grade will be determined according to the following weighting:

Individual Grades (55%):

Jupyter Notebook Quizzes	5%
Weekly Tests (6)	18%
Annotated Bibliography	12%
Team Meetings Participation	10%
MS Teams Communication	5%
Presentation	5% ²

Team Grades (45%):

Presentation	5%
Econometric Files	10%
Final Paper	30%

Jupyter Notebooks (5%): You have been given 16 Jupyter Notebooks that have been created to help you develop the Stata skills for advanced econometric research. Once you have carefully read the materials in the modules and attempted the skills in Stata, you will write a quiz that confirms your understanding of these materials. You will have as many attempts as you need before the deadline to achieve a perfect grade on these quizzes. You will need to have a solid understanding of this material to complete the weekly tests. [Learning Outcome 1]

Weekly Tests (18%): On the assigned dates (above), you will write a Canvas Assignment that tests your Stata skills using your personal laptop in the classroom. Test One will be upgraded to give you a chance to practice this form of test-taking using Stata and Canvas assignments. Before arriving at each test please be certain to carefully review the material in the relevant Jupyter Notebook(s) and practice the relevant skills in Stata. Tests are cumulative – if you perform poorly on one test you must be certain you have acquired all of those skills before writing the next test. Students who require a concession for a test must notify the instructor in advance of the test start time work [using this form](#). [Learning Outcome 1]

Annotated Bibliography (12%): The purpose of the annotated bibliography is to help guide your research (methods and data) and to prepare you to write the literature review section of the final paper. Detailed instructions on how to write an annotated biography will be posted on Canvas. Please make sure you carefully consider feedback for this assignment before writing the literature review for the final paper with your team. Students who require an extension for their annotated bibliography should apply in advance of this due date [using this form](#). [Learning Outcomes 2 & 3]

MS Teams Communication (5%): In the second half of the term, your team will be communicating on MS Teams throughout your project in your team channel and will be monitored to provide guidance. Grades for this communication will be granted as follows [Learning Outcome 10]:

Marks	Performance
5	Several times a week engages in meaningful discussions with group members/asks for help/responds promptly to requests for help and input.
4	More than once a week engages in meaningful discussions with group members/asks for help/responds promptly to requests for help and input.

² Half of the presentation grade will be for the poster (team) and half will be the presentation (individual)..

3	At most once a week, engages in discussions with group members/asks for help/responds to requests for help and input.
2	At most once a week, participates in discussions with group members/ fails to respond meaningfully or promptly to requests for help and input.
1	At most once a week, participates in discussions with group members/ does not respond to requests for help and input.
0	Does not participate weekly in the group discussion.

Presentations (10%): We will be holding a poster presentation conference at the end of the term during the class time. Each group will prepare a poster for the presentation. Every student on the team will take a turn presenting the material and will upload a video of their presentation to Canvas. Grades for the presentation will be based on presentation and poster quality. [Learning Outcomes 9 & 10]

Team meetings (10%): Your team will be meeting during the term (see the schedule below) during class time (and more as needed outside of class time). During each in-class meeting, a member of the team will take minutes on Canvas. Those minutes will be used to keep track of your participation and cooperation in these meetings. Students who are more than 10 minutes late for the meeting will be marked as absent. The scoring for participation is as follows:

- I. No meetings missed - 10 marks
- II. One meeting missed - 8 marks
- III. Two meeting missed - 5 marks
- IV. Three meetings missed - 0 marks
- V. More than three meetings missed - Zero for the final project

Econometrics Files (10%): The econometrics files for your project will be reviewed before the paper is submitted. Those files (do, log and png) will be uploaded (one per group) to Canvas where you will find detailed instructions on what needs to be included. You will receive detailed feedback on those files when we meet the following week. [Learning Outcomes 1, 5, 6, 7 & 8]

Final paper (30%): Your final team paper and your final Stata files (do, log, png) will be submitted on Canvas (one submission for the group). You have been given an extensive checklist for this project please be certain to review it before submitting it. [Learning Outcomes 1 - 10]

ADDITIONAL REQUIREMENTS: The following quizzes are not for credit but must be done to access the materials that are available for you in the other modules.

Questionnaire: This questionnaire will be used to effectively assign you to teams. You should answer these questions honestly; your answers will be kept confidential. Please complete this quiz before the end of the second week of the term.

Avoiding Academic Misconduct: Please carefully read the resources available to you in this Canvas Module. You must achieve 100% in the Academic Misconduct Quiz to see the other modules on Canvas and to access the Canvas quizzes.

SCHEDULE:

UBC Students are expected to invest at least three hours of combined in-class and out-of-class work per week for each credit of coursework. ECON 490 is a three-credit course, meaning that you are expected

to spend a minimum of nine hours per week, or 260 hours over the term, meeting the requirements of this course.

For the first nine weeks of the term we will be meeting 3 hours per week and you can expect to spend at least 6 hours per week outside of class time working through the Jupyter Notebooks, developing your Stata skills, preparing for the tests, and laying the groundwork for your team project (including finding papers for your annotated bibliography). In the last five weeks of the term, we will be meeting twice a week, and you can expect to spend at least 7 hours per week working independently and with your team on the components of the team project. See the schedule below for more information.

Week	Day	Component	Topic	By the end of this class, you will be able to...
One	M	Lecture	Introduction to ECON 490	Understand what needs to be done to be successful in ECON 490
	W	Lecture	Introduction to Notebooks	Work with the self-directed learning modules created for this class
	F	Test #1	Jupyter Notebooks 2 & 3	Demonstrate an ability to create .do and .log files and to implement essential tools
Two	M	Lecture	Introduction to your project	Appreciate the research focus of this course
	F	Lecture	Long run Growth Accounting	Understand the theoretical foundations of the long run growth accounting exercise
	W	Test #2	Jupyter Notebooks 4, 5 & 8	Demonstrate an ability to create locals and globals, open data and merge data sets
Three	M	Lecture	Panel Data Analysis	Comprehend the theoretical foundations needed to undertake panel data analysis
	W	Team Work	Team contract	Create a team contract and develop a plan for undertaking the team work
	F	Test #3	Jupyter Notebooks 6 & 7	Demonstrate an ability to create new variables and undertake within group analysis
Four	M	Lecture	Final paper topics	Identify potential topics for your final paper
	W	Team Work	Discuss interests	Choose the hypothesis for your final paper
	F	Test #4	Jupyter Notebooks 9 & 10	Demonstrate an ability to create meaningful graphs for your final paper
Five	M	Lecture	Annotated Bibliography	Understand what is expected for your annotated bibliography
	W	Team Work	Review literature	Review and allocate papers for your individual annotated bibliographies.
	F	Test #5	Jupyter Notebooks 11 & 12	Demonstrate an ability to undertake regression analysis and export those results
Six	M	Lecture	Regression results	Interpret regression results and identify improvements to the model
	W	Team Work	Choose your data	Look for data to test your theory and import into Stata
	F	Test #6	Jupyter Notebooks 13 & 14	Demonstrate an ability to conduct post regression tests and correct errors
Seven		Reading Week		
Eight		Lecture	Stata Workflow Guide	Create a workflow for your final project in One Drive (Jupyter Notebook 18)
	W	Team Work	Econometric results	Create preliminary do-files, data files, and results / Allocate responsibility for revisions
	F	Test #7	Jupyter Notebooks 15	Have created the final file that you need to undertake your own analysis
Nine		Lecture	Panel data Regression results	Interpret the regression results from panel data regressions
	W	Team Work	Econometric results	Discuss empirical findings / Allocate responsibilities for writing the results section of the final paper
	F	Team Work	Charts and figures	Discuss charts and figures / Allocated responsibility for including those commands in your do-file.
Ten	W	Team Work	Review of literature	Select final papers and allocate responsibility for writing the literature review
	F	Team Work	Preparation for final paper	Discuss and allocate responsibilities for writing the introduction and conclusion of the final paper
Eleven	W	Team Work	Econometric files completed	Review your complete econometric files and prepare for online submission
	F	Team Work	Presentation Planning	Discuss the approach to the poster presentation / Allocate responsibilities for the poster
Twelve	W	Team Work	Submission Revisions	Review abstract, introduction and data section and allocate responsibility for final revisions
	F	Team Work	Submission Revisions	Review of the literature review and allocate responsibility for final revisions
Thirteen	W	Team Work	Submission Revisions	Review the results section and allocate responsibility for final revisions
	F	Poster Conference - Online		
Fourteen	M	Poster Conference - In-person		

CLASS POLICIES: The following policies apply to all students in this class.

Grade review request policy: A clear policy on requesting a grade review is available on the class Canvas page titled "Requesting a Review of your Grade". Please note that requests for grade reviews must be submitted within one calendar week of when you have received your grade.

Penalty for late/missed work: Should you need a concession for any component of this course for reasons that would warrant a concession please inform your instructor in advance of missing this work. If you miss a team meeting (during the lecture time) for a reason that would warrant an academic concession please request a concession [using this form](#). If you require an extension beyond the deadline for your annotated bibliography you must make this request to me before the due date/time for that work. In the instance that an extension is not granted in advance of the due date, 0.02 points will be deducted for every minute. For any catastrophic event that prevents a request for an extension before the due date please contact Arts Advising and [request a concession](#).

VSE Policy Prohibiting the Hiring of Tutors: The Vancouver School of Economics expressly prohibits any student from hiring a tutor/editor to assist with any portion of written work or academic research. If at any point you feel in need of additional writing support, please contact [UBC's Centre for Writing and Scholarly Communication](#) and arrange for a writing consultation, or speak with your instructor. Any student who violates the rules for academic conduct on submitted work will be given an automatic grade of zero on that component of the course. Further penalties may be levied by the President's Advisory Committee on Student Discipline. Possible further penalties could include a notation on your transcript indicating that you have committed an academic offence, failure of the course, a grade of zero in the course and/or suspension from the university. Speak to your instructor you have any questions regarding the standard for academic behaviour expected of students taking courses offered by the Vancouver School of Economics.

Policy on the Use of AI Learning Tools: The specific rules for the use of AI tools are at the discretion of the course instructor. Those rules might change over the course of the term as new technologies become available. Changes to those rules might change the content of assessments and the way that your work is evaluated. If no written instructions on the use of AI tools have been provided by the instructor, the use of all AI tools is strictly prohibited in the course. Where the written instructions permit the use of AI tools, that usage must be documented and attributed within your assessment(s). Students are responsible for all factual inaccuracies that are created by the use of AI tools. Please speak to your instructor if you have further questions about the ways in which AI technology use is permitted in this course.

Statement on Academic Honesty: It is the policy of the Vancouver School of Economics to report all violations of UBC's standards for academic integrity to the office of the Dean of Arts. All violations of academic integrity standards will result in a grade of zero on the relevant assessment (exam, paper, assignment etc.). Students who do not have a previous offence may have the option to enter into a diversionary process with the Dean of Arts to resolve their misconduct. Any student who has a previous academic offence will be referred to the President's Advisory Committee on Student Discipline (PACSD). PACSD may impose additional penalties including: a transcript notation indicating that the student has committed an academic offence, zero in the course, and/or suspension or expulsion from the University. You are personally responsible for understanding and following the UBC's policies for academic integrity. A Canvas module has been made available to you for this purpose titled "Avoiding Academic Misconduct". It is your responsibility to read the materials in that module before submitting any work in this course. Speak to your instructor if you have any questions regarding the standard for academic integrity at UBC and/or the VSE policies on academic misconduct.

Policy on Sharing Course Materials: You will note that all the materials provided to you in this course, including this document, include the statement “© Marina Adshade All Rights Reserved”. Sharing course materials in any way, either by email or by uploading them to websites, will be treated as an infringement of your instructor’s intellectual property and dealt with accordingly.

UNIVERSITY POLICIES

Policies and Resources to Support Student Success: UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is the suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and religious and cultural observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available [here](#).

MENTAL HEALTH CONCERNS: As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. I encourage you to take advantage of the many resources available at UBC to help you cope with challenges, including [Counselling Services](#), [Office of the Ombudsperson](#), and [Access and Diversity](#).