University of Manitoba

Faculty of Arts

Department of Economics

COURSE DETAILS

Course Title & Number:	Macroeconometrics for Policy Analysis	(ECON 4490 – T12) (Preliminary)
Class Times & Location:	Fridays 11:30 am – 2:15 pm @ Human Ecology 304	
Instructor:	Carlos Yepez	
Contact*:	Carlos.Yepez@umanitoba.ca	
Office:	644 Fletcher Argue Bldg.	
Office Phone:	204-272-1517	
Hours:	Fridays 9:30 am – 10:30 am or by appointment.	

*I usually respond to e-mails within 48 working hours.

Course Description

Econometric techniques for empirical macroeconomic analysis are popular and widely used in academic, public, and private institutions. The aims and scope of this course are as follows: 1) to provide an introduction to applied time series methods with focus on empirical macroeconomics; 2) to discuss recent developments in macroeconomic policy; 3) to apply what is learnt in the analysis of real-world policy questions; 4) to provide an opportunity for collaboration with classmates through a term project. In practice this means that weekly lectures combine both the study econometric methods along with empirical applications in macroeconomics; and the term project involves the writing and presentation of a data-dependent policy report.

Econometric topics include analysis of stationary and non-stationary time series, seasonality, vector auto-regressions, vector error correction models, and panel data estimation. Course lectures are workshop-style where students use their laptops to work on macroeconomic applications during in-class practical sessions.

Students have previously studied core macroeconomic theory, statistics and core econometrics including OLS and IV, and have experience using econometric software.

Pre-requisites

Instructor approval is required for this course; interested students should contact the instructor in order to register. In general, the expectation is that you have a grade of B+ (or higher) on Econ 3040, and a grade of B+ (or higher) in Econ 3020 or Econ 3650.

Course Goals

Upon completion of this course students in this course are expected to:

1. Gain knowledge about time series methods used for empirical work in macroeconomics.

2. Examine the properties of macroeconomic time series data and perform appropriate data manipulation techniques to carry out further analyses.
3. Gain ability to handle many of the common features present in most economic time series such as trends, seasonality, and co-integration.
4. Develop a data-based approach to evaluate the impact of macroeconomic policy interventions. Quantify possible outcomes associated with a given policy intervention.
5. Study a variety of policy-relevant empirical applications in macroeconomics.
6. Write and present a technical report analyzing a current and relevant macroeconomic policy issue.

Textbook, Readings, Materials

Required

Textbook

The following required materials are available for online purchase from websites such as Amazon as well as in eBook format from https://www.vitalsource.com/. Please order your materials immediately, if you have not already done so.

- Enders, Walter (2015). *Applied Econometric Time Series*, 4th edition. Wiley.

Readings

Journal articles are available from the UM online library catalogue (http://umanitoba.ca/libraries/) other readings are publicly available online (link provided below).

- Yield Curve and Predicted GDP Growth. *Federal Reserve Bank of Cleveland*, July 2018. https://www.clevelandfed.org/our-research/indicators-and-data/yield-curve-and-gdp-growth.aspx
- Auerbach, A. and Y. Gorodnichenko (2012). Measuring the Output Responses to Fiscal Policy. *American Economic Journal: Economic Policy*, 4(2), 1-27.
- Bailliu, J. and M. King (2005). What Drives Movements in Exchange Rates? *Bank of Canada Review*.
- Borio, C., Disyatat, P., & Juselius, M. (2014). A parsimonious approach to incorporating economic information in measures of potential output. *Bank of International Settlements Working Papers*, (442).
- Borio, C., Disyatat, P., & Juselius, M. (2017). Rethinking potential output: Embedding information about the financial cycle. *Oxford Economic Papers*, 69(3), 655-677.
- Cecchetti, S. (2018). GDP: One size no longer fits all. Blog post, July 30, 2018. https://www.moneyandbanking.com/commentary/2018/7/29/gdp-one-size-no-longer-fits-all
- Coibion, O., & Gorodnichenko, Y. (2015). Is the Phillips curve alive and well after all? Inflation expectations and the missing disinflation. *American Economic Journal: Macroeconomics*, 7(1), 197-232.
- Christiano, L. J., Eichenbaum, M. S., & Trabandt, M. (2018). On DSGE models. *Journal of Economic Perspectives*, 32(3), 113-40.
- Favara, G., S. Gilchrist, K. Lewis, and E. Zakrajsek. (2016) Recession Risk and the Excess Bond Premium. FEDS Notes. April 8, 2016. https://www.federalreserve.gov/econresdata/notes/feds-notes/2016/recession-risk-and-the-excess-bond-premium-20160408.html
- Gertler, M., & Gilchrist, S. (2018). What happened: Financial factors in the Great Recession. *Journal of Economic Perspectives*, 32(3), 3-30.
- Giannoni, M. (2016). Models for Forecasting and Policy Analysis. Federal Reserve Bank of New York. https://www.newyorkfed.org/medialibrary/media/outreach-and-education/Giannoni-ModelsforForecasting-Fed21-2016.pdf
- Gruber, J., A. McCallum, and R. Vigfusson (2016). The Dollar in the U.S. International Transactions (USIT) Model. IFDP Notes. https://www.federalreserve.gov/econresdata/notes/ifdp-notes/2016/the-dollar-in-the-us-international-transactions-model-20160208.html

- Guisinger, A., Owyang, M. and H. Shell (2018). Comparing Measures of Potential Output, *Federal Reserve Bank of St. Louis Review*, Early Edition 2018. https://research.stlouisfed.org/publications/review/2018/08/13/comparing-measures-of-potential-output/
- Hamilton, J. D. (2017). Why you should never use the Hodrick-Prescott filter. *Review of Economics and Statistics*, (0).
- Kilian, L. and R. Vigfusson (2017). The role of oil price shocks in causing US recessions. *Journal of Money, Credit and Banking*, 49 (8), 1747-1776.
- Helliwell, J., Issa, R., Lafrance, R., and Q. Zhang (2005). NEMO: A Canadian US Dollar Exchange Rate Equation. In *Canada and the Global Economy*. Proceedings of a conference held by the Bank of Canada, November 2004. https://economics.ca/2005/papers/0457.pdf
- Leamer, E. (2015). Housing Really is the Business Cycle: What Survives the Lessons of 2008-2009?, *Journal of Money, Credit, and Banking*, 47 (1), 43-50.
- Marcellino, M., Stock, J. H., & Watson, M. W. (2006). A comparison of direct and iterated multistep AR methods for forecasting macroeconomic time series. *Journal of econometrics*, 135(1-2), 499-526.
- Mertens and M. O. Ravn (2010). Measuring the Impact of Fiscal Policy in the Face of Anticipation: A Structural VAR Approach. *Economic Journal,* 120(544), 393-413.
- Nakamura, E., & Steinsson, J. (2018). Identification in macroeconomics. *Journal of Economic Perspectives*, 32(3), 59-86.
- Ramey, V.A. (2009). Identifying Government Spending Shocks: It's All in the Timing, *NBER Working Papers* no. 15464.
- Rabanal, P., Rubio-Ramirez, J. F., & Tuesta, V. (2011). Cointegrated TFP processes and international business cycles. *Journal of Monetary Economics*, 58(2), 156-171.
- Uhlig, H. (2005). What are the effects of monetary policy on output? Results from an agnostic identification procedure. *Journal of Monetary Economics,* (52), 381-419.
- Williams, J. (2015). The Decline in the Natural Rate of Interest. Federal Reserve Bank of San Francisco. https://www.frbsf.org/economic-research/files/Williams_NABE_2015_natural_rate_FRBSF.pdf
- Yellen, J (2015). Inflation Dynamics and Monetary Policy. FED Chair speech. https://www.federalreserve.gov/newsevents/speech/yellen20150924a.htm

Recommended

The following textbooks listed below can serve as useful references to (some of) the econometric topics covered in this course.

- Greene, W. (2017). Econometric Analysis (8th Edition).
- Gujarati, D. , Porter, D., and S. Gunasekar (2011). Basic Econometrics. (5th Edition)
- Wooldridge, J. (2015). Introductory Econometrics: A Modern Approach. (6th Edition)
- Stock, J. and M. Watson (2015). Introduction to Econometrics. (3rd Edition).

Course Technology

Required

Laptop and Software

- A crucial component in this course is the practical sessions during class. In order to participate in practical sessions, you must bring your own portable computer. In addition, this course requires the use of the statistical software package STATA. A six-month license for small STATA with electronic documentation can be purchased through the STATA GradPlan program.
- Note: Students who are already proficient with other statistical software such as Eviews, RATS, and SAS can use that software instead.

Course Overview

Overview

This is an introductory course in time series methods with focus on empirical macroeconomic applications for policy analysis. This course provides a substantive foundation for further study of more advanced topics in time series as well as macroeconomic theory & policy subjects.

Outline

The course consists of the following modules*:

Module 1 Difference Equations

Module 2 Stationary Time Series Models

Module 3 Models with Trend

Module 4 Vector Autoregressions (VARs and structural VARs)

Module 5 Topics: Methods for forecasting and policy analysis

Module 6 Cointegration and Error-Correction Models

Module 7 Dynamic stochastic general equilibrium models for policy analysis

***Notes:** Some topics within the modules are only covered partially. Due to time limitations some modules may be omitted.

Intended Learning Outcomes

Upon completion of this course students are expected to gain hands-on skills using time series methods for empirical macroeconomic analysis, as well as to develop a data-driven approach to evaluate macroeconomic policy questions. Students will develop these skills through learning methods for time series analysis and applying these methods during practical sessions and in solving empirical assignments. Methods are illustrated with macroeconomic applications from current studies. Finally students are expected to gain an ability to write, present, and defend a technical report project on a current and topical macroeconomic policy issue.

Evaluation and Grading

Distribution of marks

Evaluation	Percentage	Due dates (*tentative*)
In-class practical laboratories	10%	Throughout the term.
Inc-lass participation (readings & discussion)	10%	Throughout the term.
Empirical assignments	10%	Throughout the term.
Individual policy report proposal	10%	October 12
Individual policy project presentations	10%	Oct. 26 & Nov. 2
Final technical policy report (teams)	30%	November 8
Policy report presentations (teams)	10%	November 9
Presentation Peer Review	10%	November 9

Grading scale

Letter grade	Percentage range	Description
A+	95 – 100	Exceptional
A	86 – 94	Excellent
B+	80 – 85	Very good
B	72 – 79	Good
C+	65 – 71	Satisfactory
C	60 – 64	Adequate
D	50 – 59	Marginal
F	less than 50	Failure

Notes:

- The *voluntary withdrawal* deadline date is November 19, 2018.
- All final grades are subject to departmental review.

In-class participation and practical laboratories

Note: Class attendance is required in order to earn in-class participation and laboratory marks during the semester.

In class participation marks are cumulative and assigned based on a combination of items such as, but not limited to, in-class quizzes, preparation, presentation and discussion of assigned readings, in-class solution of empirical exercises during the weekly practical laboratories, and overall contribution to classroom discussion. There will be no make-up marks for in-class participation.

Assignments

For each topic studied there is an empirical assignment to be written. The empirical assignments are usually *posted on the UM Learn course website* and *due on a weekly basis*.

The assignments assess data analysis and interpretative skills on each topic covered. Importantly, the assignments help you build skills to prepare and implement the final technical report project.

Be sure to have your both laptop and statistical software. There are no make-up assignments if you miss a deadline.

Assignments due dates

Consult Sapling on a regular basis (weekly) for the empirical assignment due dates. No late submissions are allowed. Do not wait until the last minute. If you miss an assignment, you will get a grade of zero on that assignment.

Technical Policy Report Project

The technical policy report project has both individual and team components. For the individual component of the project, each student will implement an empirical macroeconomics application of policy relevance using current Canadian macroeconomic data. For the group component of the project, teams of three to four students will collaborate in the delivery of a data-driven monetary policy report along with an interest rate recommendation to align with the central bank's policy rate announcement in December of the current year. Although students are encouraged to combine both individual and team contributions to the policy report project, they are free to implement new empirical projections for the team-part of the project if preferred.

The technical policy report has five stages. Due dates of each of the stages are outlined below:

1) Topic choice (Due Sep. 28): Each student submits his or her choice of topic to do as individual project.
2) Submit individual technical project proposal (Due in class on Oct. 12): In this stage, each student proposes a data-driven macroeconomic policy project by writing a 500-word report containing a discussion of the guiding policy question, summarizing and presenting the relevant economic data, and discussing the empirical method to be employed in order to answer the question.
3) Individual technical project presentation (Due in class, Oct. 26 & Nov. 2): Each student prepares and delivers a 10-minute presentation on his/her individual project. All students are encouraged to raise and ask clarifying questions from the presenter.
4) Submit final group project report (Due by 4:00 pm on Nov. 8): In this stage, each team (of 3 to 4 students) submits a 1500-word technical monetary policy on the current state of the Canadian economy. Namely, the report includes relevant macroeconomic data and trends, implementation of econometric projections and forecasts, discussion of empirical results, and a policy recommendation.
5) Team project presentation (Due in class on Nov. 9): In this last stage, each team of students prepares and delivers a 30-minute final presentation of the project submitted project in stage (2). Each participating team is expected to raise and ask clarifying questions from each presenting peer team.

Notes:

- Grading: Each project component (individual, team) is graded separately.
- *Team membership deadline*: Students form teams (3 to 4) and submit their names by Oct. 12, 2018.
- Academic honesty: Project proposals (individual, team) must not have been submitted to other (past or current) courses. If the topic proposed is similar to one used in other courses, students should request prior approval from the instructor.
- Presentation Peer Review: At the end of each team presentation, students are required to provide their individual evaluation of their peers' projects. This grade will count a total of 10% toward the final (team) technical report project grade.
- There is no final examination for this course.

Course Policies

I expect you to be attentive in class and participate in discussion. Please be considerate and respectful of the needs and rights of others in the class. You are expected to come to class on time, but if you are late please enter the class silently in order not to disturb the instructor or other students.

The use of laptop computers, tablets, and any other technology in the classroom is restricted for education purposes approved by the instructor and/or U of M Disability Services. Notice that taking pictures or recording lectures and discussions in a classroom setting is **not** permitted at any time. Please *turn off your cellphone or switch it to silent mode when you are in class*.

Please refer to the University's Respectful Work and Learning Environment Policy.

Email Policy

I will be happy to answer questions on the course material by email. However, due to the large number of students in this class and past experience with email from students (such as numerous emails the night before an assignment is due or an exam is scheduled*), I usually respond to e-mails within 48 working hours*.

Note: As per university policy, you are required to have and use your *@myumanitoba.ca* email account to communicate with the instructor. Emails from other personal email accounts may not be responded to.

Examination Policy

Attendance is required. Students will not be permitted to request a make-up grade for any of the graded components except for **documented** medical or compassionate reasons. In such cases, anyone who must miss a class must notify me immediately and prior to the class. If the student fails to provide such documentation, he or she will get a score of zero in the relevant graded component. Due to the nature of the course, missing a deadline -especially in relation to the technical report project components- is strongly discouraged. Instead, to avoid complications, students may submit the (written) graded component ahead of time.

Re-grading Policy

Any graded assessment for which there is an appeal or re-grade request must be done within ten (10) days after students receive their mark. The request must include a written and well-documented description of what the problem is and why the student believes a re-grading is appropriate.

Students Accessibility Services

Student Accessibility Services

If you are a student with a disability, please contact SAS for academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g. mental illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation.
Student Accessibility Services http://umanitoba.ca/student/saa/accessibility/ 520 University Centre
204 474 7423
Student_accessibility@umanitoba.ca

Plagiarism, cheating, and examination impersonation

There is zero tolerance for plagiarism and cheating, which can lead to serious academic consequences. You should acquaint yourself with the University's policy on plagiarism, cheating, and examination impersonation as detailed in the General Academic Regulations and Policy section of the University of Manitoba

Undergraduate Calendar. Note: These policies are also located in your *Distance and Online Education Student Handbook* or you may refer to Student Affairs at http://www.umanitoba.ca/student.

Additional Information

Section A: Academic supports available to Students

Writing and Learning Support

The Academic Learning Centre (ALC) offers services that may be helpful to you throughout your academic program. Through the ALC, you can meet with a learning specialist to discuss concerns such as time management, learning strategies, and test-taking strategies. The ALC also offers peer supported study groups called Supplemental Instruction (SI) for certain courses that students have typically found difficult. In these study groups, students have opportunities to ask questions, compare notes, discuss content, solve practice problems, and develop new study strategies in a group-learning format.
You can also meet one-to-one with a writing tutor who can give you feedback at any stage of the writing process, whether you are just beginning to work on a written assignment or already have a draft. If you are interested in meeting with a writing tutor, reserve your appointment two to three days in advance of the time you would like to meet. Also, plan to meet with a writing tutor a few days before your paper is due so that you have time to work with the tutor's feedback.
These Academic Learning Centre services are free for U of M students. For more information, please visit the Academic Learning Centre website at: http://umanitoba.ca/student/academiclearning/
You can also contact the Academic Learning Centre by calling 204-480-1481 or by visiting 201 Tier Building.
University of Manitoba Libraries (UML)

As the primary contact for all research needs, your liaison librarian can play a vital role when completing academic papers and assignments. Liaisons can answer questions about managing citations, or locating appropriate resources, and will address any other concerns you may have, regarding the research process. Liaisons can be contacted by email or phone, and are also available to meet with you in-person. A complete list of liaison librarians can be found by subject: http://bit.ly/WcEbA1 or name: http://bit.ly/1tJ0bB4. In addition, general library assistance is provided in person at 19 University Libraries, located on both the Fort Garry and Bannatyne campuses, as well as in many Winnipeg hospitals. For a listing of all libraries, please consult the following: http://bit.ly/1sXe6RA. When working remotely, students can also receive help online, via the Ask-a-Librarian chat found on the Libraries' homepage: http://www.umanitoba.ca/libraries.

Section B: Health and mental health

For 24/7 mental health support, contact the Mobile Crisis Service at 204-940-1781.

Student Counselling Centre

Contact SCC if you are concerned about any aspect of your mental health, including anxiety, stress, or depression, or for help with relationships or other life concerns. SCC offers crisis services as well as individual, couple, and group counselling.

Student Counselling Centre: http://umanitoba.ca/student/counselling/index.html
474 University Centre or S207 Medical Services
(204) 474-8592
Student Support Case Management

Contact the Student Support Case Management team if you are concerned about yourself or another student and don't know where to turn. SSCM helps connect students with on and off campus resources, provides safety planning, and offers other supports, including consultation, educational workshops, and referral to the STATIS threat assessment team.

Student Support Intake Assistant http://umanitoba.ca/student/case-manager/index.html
520 University Centre
(204) 474-7423
University Health Service

Contact UHS for any medical concerns, including mental health problems. UHS offers a full range of medical services to students, including psychiatric consultation.

University Health Service http://umanitoba.ca/student/health/
104 University Centre, Fort Garry Campus
(204) 474-8411 (Business hours or after hours/urgent calls)

Health and Wellness

Contact our Health and Wellness Educator if you are interested in information on a broad range of health topics, including physical and mental health concerns, alcohol and substance use harms, and sexual assault.

Health and Wellness Educator http://umanitoba.ca/student/health-wellness/welcome.html
Katie.Kutryk@umanitoba.ca
469 University Centre
(204) 295-9032

Live Well @ U of M

For comprehensive information about the full range of health and wellness resources available on campus, visit the Live Well @ UofM site:

http://umanitoba.ca/student/livewell/index.html

Section C: Copyright

All students are required to respect copyright as per Canada's *Copyright Act*. Staff and students play a key role in the University's copyright compliance as we balance user rights for educational purposes with the rights of content creators from around the world. The Copyright Office provides copyright resources and support for all members of the University of Manitoba community.

Visit http://umanitoba.ca/copyright for more information.

Section D: University and Unit policies, procedures, and supplemental information

Your rights and responsibilities

As a student of the University of Manitoba you have rights and responsibilities. It is important for you to know what you can expect from the University as a student and to understand what the University expects from you. Become familiar with the policies and procedures of the University and the regulations that are specific to your faculty, college or school.

The Academic Calendar http://umanitoba.ca/student/records/academiccalendar.html is one important source of information. View the sections *University Policies and Procedures* and *General Academic Regulations*.

While all of the information contained in these two sections is important, the following information is highlighted.

- If you have questions about your grades, talk to your instructor. There is a process for term work and final **grade appeals**. Note that you have the right to access your final examination scripts. See the Registrar's Office website for more information including appeal deadline dates and the appeal form http://umanitoba.ca/registrar/
- You are expected to view the General Academic Regulation section within the Academic Calendar and specifically read the **Academic Integrity** regulation. Consult the course syllabus or ask your instructor for additional information about demonstrating academic integrity in your academic work. Visit the Academic Integrity Site for tools and support http://umanitoba.ca/academicintegrity/ View the **Student Academic Misconduct** procedure for more information.
- The University is committed to a respectful work and learning environment. You have the right to be treated with respect and you are expected conduct yourself in an appropriate respectful manner. Policies governing behavior include the:
  Respectful Work and Learning Environment

  http://umanitoba.ca/admin/governance/governing_documents/community/230.html

Student Discipline
http://umanitoba.ca/admin/governance/governing_documents/students/student_discipline.html and,

Violent or Threatening Behaviour
http://umanitoba.ca/admin/governance/governing_documents/community/669.html

- If you experience **Sexual Assault** or know a member of the University community who has, it is important to know there is a policy that provides information about the supports available to those who disclose and outlines a process for reporting. The **Sexual Assault** policy may be found at: http://umanitoba.ca/admin/governance/governing_documents/community/230.html More information and resources can be found by reviewing the Sexual Assault site http://umanitoba.ca/student/sexual-assault/
  - For information about rights and responsibilities regarding **Intellectual Property** view the policy http://umanitoba.ca/admin/governance/media/Intellectual_Property_Policy_-_2013_10_01.pdf
  - For information on regulations that are specific to your academic program, read the section in the Academic Calendar and on the respective faculty/college/school web site http://umanitoba.ca/faculties/
  - Contact an **Academic Advisor** within our faculty/college or school for questions about your academic program and regulations http://umanitoba.ca/academic-advisors/

Student Advocacy

Contact Student Advocacy if you want to know more about your rights and responsibilities as a student, have questions about policies and procedures, and/or want support in dealing with academic or discipline concerns.
http://umanitoba.ca/student/advocacy/
520 University Centre
204 474 7423
student_advocacy@umanitoba.ca