University of Waterloo
Department of Economics
Econ 406
Money and Banking 2
Winter 2021

Instructor Information

Instructor: Jean-Paul Lam
Virtual Office Hours: TuTh 1:30-3:00 pm or by appointment
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Teaching assistant: TBA

Course Description

This course will be taught remotely and asynchronously. Most of the course content will be delivered through lecture notes that I will post on UW-LEARN. I will also post videos that will cover specific parts of the notes, current topics and events directly related to the course. In addition to the lecture notes and book chapters, there are several required readings for this class. Most of the papers are available online.

The course will cover various topics on money, monetary economics and monetary policy. Topics include: what is money? What forms does money take? How to identify a monetary shock, the role of money in macro models, price rigidities, optimal monetary policy, liquidity traps, zero lower bound, rules versus discretion and what to target?

Office Hours

I will hold virtual office hours every Tuesday and Thursday from 1:30-3:00 pm. You can also make an appointment with me by email. When making an appointment, please be mindful of the time difference if you are in a different time zone. I will use MSTEAMS as the main platform for office hours. As this course is relatively technical and involves macro models and econometrics, I will often prefer a virtual meeting rather than answering your questions by email. In addition to the class topics, I am also happy to answer questions about current economic events as I would often do in class.

I will answer any email within two business days. If I cannot provide an answer to your questions by email, I will schedule a virtual call with you by Teams within two business days.

Textbooks

There are no specific textbooks that I will use for this course. However, if you plan to go to grad school, I recommend buying the textbook by Carl Walsh.

- Walsh, Carl E., **Monetary Theory and Policy**, 4th edition, Cambridge: MIT (the third edition is also fine)

Evaluation

- 4 assignments worth 50%
- Data project worth 20%
- Final exam worth 30%

You are expected to complete the assignments and the data project on your own. I am happy to answer any questions you may have on the assignments.

4 assignments worth 50 percent of your total marks.

Assignment 1: due Friday, January 19, midnight EST, worth 10%

Assignment 2: due Friday, February 19, midnight EST. worth 15%

Assignment 3: due Monday, March 8, midnight EST, worth 12.5%

Assignment 4: due Monday, March 29, midnight EST, worth 12.5%

The assignments will be a mixture of math problems, data collection and analysis and short answer questions. I understand and recognize all the intricacies and challenges of learning remotely. For this reason, I am giving you plenty of time to do each assignment (about three weeks). I will not accept any late assignment or grant any extensions unless you are sick (documentation is needed for the whole period) for the assignment's duration.

A data project worth 20 percent of your total marks.

The data project is due on April 9th, 2020. I will provide more details about the data project by the end of January. Please do not leave the data project until the last minute. The data project will consist of using Canadian macroeconomic data and one of the tools we will learn to answer a specific question or issue.

A final exam worth 30 percent of your total marks.

The date will be communicated at a later time. I will provide more details about the final exam by the middle of March.

How to hand-in assignments and the data project?

Please hand-in all your assignments and the short data project via the Dropbox in Learn. If you are having technical difficulties with Learn and cannot submit your assignment by the deadline, please send me an email. I will be checking my email until midnight the day the assignments are due. Remote teaching has many challenges and since this is a big class, I will ask for your cooperation to submit your assignments on time.

Lecture Topics and Readings

I will post the lecture notes and readings in advance on UW LEARN (https://learn.uwaterloo.ca). I expect to post all the lecture notes for this class by week 4. I will also post videos on various parts of the lecture notes and topics.

1 **Covid-19 and the Canadian economy**
- The effects of Covid-19 on the Canadian economy – a data perspective

2 **What is money?**
- Why is money important?
- Barter economy versus a monetary economy
- Forms of money
- Correlation: money, output and prices in the short-and-long-run
- Digital currency, Blockchain, Covid-19 and digital payments

   Readings: Walsh, Ch 1

3 **Structural VectorAutoregressions**
- Short-term identification
- What happens after a monetary policy shock?
- Simulating the Covid-19 shock.

   Readings: Structural Vector AutoRegressive (page 1-18), paper posted on Learn

4 **General Equilibrium Models with money and Optimal Inflation**
- Monetary neutrality and superneutrality
- What is the optimal rate of inflation?

   Readings

- CW, Chapter 2, Chapter 3, sections 3.3 and 3.6, Chapter 5, section 5.3

5 **New Keynesian Models and Optimal Monetary Policy**
- Models of price stickiness
- Evidence on price stickiness
- The New Keynesian model
- Optimal policy under commitment and discretion
- What to target? IT, PLT, Average inflation, NGDP?

Readings

- CW chapter 8
- Clarida, R., J. Galí, and M. Gertler. 1999. "The Science of Monetary-Policy: A New Keynesian Perspective." Journal of Economic Literature.

6 **The response of central banks and governments to the Covid-19 shock.**

Readings

- Benmelech, E and N. Tzur-Ilan, 2020. "The Determinants of Fiscal and Monetary Policies during the Covid-19 Crisis." NBER Working Paper No 27461

Software

I will use Matlab (https://uwaterloo.ca/information-systems-technology/news/matlab-access-faculty-researchers-students-and-staff) for this course. You can also use the online version of Matlab but some toolboxes may not work with the online version.

A good place to start learning Matlab is the Mathworks website where there are plenty of examples and a tutorial (https://matlabacademy.mathworks.com/R2020a/portal.html?course=gettingstarted)

To solve and simulate dynamic stochastic general equilibrium models, I will use DYNARE (https://www.dynare.org/).   Dynare is a free toolbox for Matlab. On the Dynare website, there is information on how to install the software within Matlab. You can also download the manuals for Dynare. I will post many examples of programs in Dynare.

Guest Speakers

The pandemic is one of the biggest economic shock we have witnessed in recent times. I intend to invite one to two economists to give us their perspectives on the Canadian and Global economy. More details will follow.

Policy of Remarking Tests

If you want me to remark your work because you suspect a mistake, all regrade requests must be submitted within one week of receiving your work back. In your request, you must clearly indicate the reasons why you want your work to be regraded. Note that your grade may go up, down or stay the same as a result of regrading your work.

Statements and links to be included on all course outlines:

Economics Department Deferred Final Exam Policy

Cross-listed course

Please note that a cross-listed course will count in all respective averages no matter under which rubric it has been taken. For example, a PHIL/PSCI cross-list will count in a Philosophy major average, even if the course was taken under the Political Science rubric.

Academic Integrity

In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. See the UWaterloo Academic Integrity Webpage and the Arts Academic Integrity webpage for more information.

Grievance

A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70, Student Petitions and Grievances, Section 4. When in doubt please be certain to contact the department's administrative assistant who will provide further assistance.

Discipline

A student is expected to know what constitutes academic integrity to avoid committing academic offenses and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course professor, academic advisor, or the undergraduate associate dean. For information on categories of offenses and

types of penalties, students should refer to [Policy 71, Student Discipline](). For typical penalties check the [Guidelines for the Assessment of Penalties]().

Appeals

A decision made or penalty imposed under Policy 70, Student Petitions and Grievances (other than a petition) or Policy 71, Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 - Student Appeals.

Accommodation for Students with Disabilities

Note for students with disabilities: The [AccessAbility Services office](), located on the first floor of the Needles Hall extension (1401), collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AS office at the beginning of each academic term.

Mental Health Support

All of us need a support system. The faculty and staff in Arts encourage students to seek out mental health supports if they are needed.

On Campus
• Counselling Services: [mailto:counselling.services@uwaterloo.ca]()/ 519-888-4567 ext. 32655
• [MATES](): one-to-one peer support program offered by Federation of Students (FEDS) and Counselling Services
• Health Services Emergency service: located across the creek form Student Life Centre

Off campus, 24/7
• [Good2Talk](): Free confidential help line for post-secondary students. Phone: 1- 866-925-5454
• Grand River Hospital: Emergency care for mental health crisis. Phone: 519- 749-433 ext. 6880
• [Here 24/7](): Mental Health and Crisis Service Team. Phone: 1-844-437-3247
• [OK2BME](): set of support services for lesbian, gay, bisexual, transgender or questioning teens in Waterloo. Phone: 519-884-0000 extension 213

Full details can be found online at the Faculty of ARTS [website]()
Download [UWaterloo and regional mental health resources (PDF)]()
Download the [WatSafe]() app to your phone to quickly access mental health support information

Territorial Acknowledgement

We acknowledge that we are living and working on the traditional territory of the Attawandaron (also known as Neutral), Anishinaabe and Haudenosaunee peoples. The University of Waterloo is situated on the Haldimand Tract, the land promised to the Six Nations that includes six miles on each side of the Grand River.