

**Advanced Macroeconomics**  
**Econ 3320B: Winter 2019**  
**Department of Economics - University of Western Ontario**  
**SYLLABUS**

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<b>Instructor:</b>	Amanda M Michaud
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<b>Office Hour:</b>	After class and by appointment
<b>Teaching Assistant:</b>	Robert Millard
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<b>Lecture:</b>	Mondays 11:30a-1:30p in SSC-1059 Wednesdays 12:30p-1:30p in TC-204
<b>Course website:</b>	<a href="https://owl.uwo.ca">https://owl.uwo.ca</a>

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**Registration:** You are responsible for ensuring you are registered in the correct courses. If you are not registered in this course, the Department will not release any of your marks until your registration is corrected. You may check your timetable by using the Login on the Student Services website at <https://student.uwo.ca>. If you notice a problem, please contact your home Faculty Academic Counsellor immediately.

**Prerequisites:** The prerequisites for this course are **Economics 2221A/B, and Economics 2261A/B**.

You are responsible for ensuring that you have successfully completed all course prerequisites, and that you have not taken an anti-requisite course. Lack of pre-requisites may not be used as a basis for appeal. If you are found to be ineligible for a course, you may be removed from it at any time and you will receive no adjustment to your fees. This decision cannot be appealed.

If you find that you do not have the course prerequisites, it is in your best interest to drop the course well before the end of the add/drop period. Your prompt attention to this matter will not only help protect your academic record, but will ensure that spaces become available for students who require the course in question for graduation.

**Course Objectives:** The objective of this course is to expand students' knowledge of the foundational models of Macroeconomics with the objective of answering quantitative questions about the Macroeconomy. Such models include life-cycle models of intertemporal choice; the Neoclassical Growth Model; and both Real and New Keynesian models of business cycles. A sample of the questions that are addressed include the following. What accounts for differences in households' borrowing and saving? What factors matter for differences in wealth and economic growth across countries? How much would proposed public policies affect individuals and the Macroeconomy? What factors contribute to different business cycles in different countries?

The methods of structural quantitative analysis introduced will require computation. We will use computers to: (i) analyze large amounts of data, (ii) solve models with no analytic solution, and (iii) conduct experiments on simulated economies.

This course provides instruction on core methods in all three of these areas and in the method of calibration: the careful mapping of a model to the data in order to make quantitative conclusions. All computation will be done in the Matlab programming language and with the Dynare package used by academic and policy economists around the world.

Each student will produce two tangible products: (i) a completed policy document highlighting experiments run on a simulated model economy, and (ii) a one page executive summary of macroeconomic forecasts as one might perform in a private sector analyst positions. These reports will provide students explicit evidence of their skills to be shown to employers or in internship/graduate studies applications.

### **Course Learning Outcomes:**

- Students will understand how models are parameterized differently to answer different quantitative questions using the method of calibration.
- Students will understand how the desire to consumption smooth is linked to parameters in a utility function and how to calibrate these parameters to both micro and macro data.
- Students will be able to set up the firm's and the household's problem within the Neoclassical Growth Model, and then derive and interpret the equilibrium conditions.
- Students will understand how government policies may violate the first welfare theorem and create costly distortions in the macroeconomy.
- Students will calibrate the Neoclassical Growth Model to a specific country and perform growth accounting and policy analysis. They will communicate their methodology and the economic interpretation of their results in a policy report.
- Students will understand Real Business Cycle and New Keynesian Business Cycle theories and select which is most quantitatively relevant for their specific country of study.
- Students will gain basic proficiency in modifying instructor supplied Matlab code; and be able to interpret program outputs and communicate their results using graphs and statistical tables.

**Texts:** The primary resources for this course will include lectures notes and reading assigned from other sources. Some key references are:

- ([1]) *Intermediate Macroeconomics* by Garin, Lester, and Sims (2018) - available free as e-text
- ([2]) *Dynamic Economics: Quantitative Methods and Applications* Adda and Cooper (2003)
- ([3]) *The ABCs of RBCs* by McCandless (2008)

**Computer Languages** This is an applied theory course. All students will be required to do some programming to complete the course.

**Data Analysis:** Microsoft Excel will be used to organize data. Very basic knowledge of Excel is assumed.

**General Programming Languages:** For complicated computations we will require a more serious programming language. Instruction will be given in Matlab. <http://www.mathworks.com/products/matlab/>. This program has several built-in functions, graphics capabilities, and is widely used by Economists. Licenses are free to students through Social Sciences Technology Services (<https://ssts.uwo.ca/>). Students may also use Matlab on MyVLab or in one of the computer labs listed by SSTS.

We will also make extensive use of <http://www.dynare.org/> ([4]), “a software platform for handling a wide class of economic models, in particular dynamic stochastic general equilibrium (DSGE) and overlapping generations (OLG) models. ”

## **Course Requirements:**

**Syllabus:** Students are required to read the syllabus by the second week of class and are responsible for adhering to the policies enclosed.

**Class Attendance & Participation:** Class attendance is crucial for students’ success in this course. This is an applied course and students will be learning a series of tools that build upon each other. Frequently, lab time will be set aside to serve as “workshops” for individual and group projects. To provide incentive, attendance and participation will comprise 15% of the course grade. Two classes may be missed with no penalty, after which each class missed will lower the course grade by 1 points. There are no excused absences. ***Class attendance will be taken in Monday classes at 11:30am sharp. Students not present at that time OR found not to be participating in class (ie: are using the computers or their personal devices for other activities) will be marked as absent.***

**Readings:** Several readings will be assigned during the course. These will include instructional text on theory and techniques as well as economic papers illustrating quantitative methods and applications in macroeconomics. Short reading reports may be assigned to validate participation.

**Problem Sets:** Several problem sets will be assigned during the course. Assignments will be posted on the course website and announced in class. Students are responsible for checking the course website frequently to download assignments. Unless otherwise specified, all problem sets will be submitted through OWL. All files pertinent to the assignment (code, data, written documents, etc.) should be uploaded individually, NOT in zipped folders. Final grades of assignments not meeting these standards will be discounted by 25%. No late assignments will be accepted. If you are having trouble with OWL, you are STILL responsible for e-mailing me the files before the due date. DO NOT wait for the last minute. In acknowledgement of the prevalence of illness and miscellaneous personal disasters, each student’s lowest two problem set / reading report grades will be automatically dropped.

**Groups:** Students will be assigned to country groups. The purpose is to provide a peer group to collaborate with on issues specific to the country you are working on. You will still be responsible for submitting your own code and written assignments. While I expect code to be highly collaborative, the written response portion of each assignment must be your own.

**Examination:** Written exams are not appropriate for the format of this course. The two reports summarizing material learned throughout the course will act as a midterm and final. The “Executive Memo” serves as midterm and is due on or before April 15th. The “Policy Report” serves as final and is due on or before February 24th.

**Calculation of Course Grades:** *Ignore the course grade in Canvas. It has no meaning.* Instead, refer to the following algorithm to learn how students’ numerical course grades will be computed:

Component	Weight
Attendance and Participation	15%
Executive Memo	20%
Policy Report	30%
All Other Assignments	35%
<b>Total</b>	<b>100%</b>

Students can earn up to 100 points from attendance and course work. Extra credit opportunities may arise at the instructor’s discretion. Numerical totals will be converted to a letter grade by the following:

90-100	A+
80-89	A
70-79	B
60-69	C
50-59	D
49 and below	F

**Grading Disputes:** Challenges to a grade may be presented in writing explaining why you believe you deserve a different grade. I reserve the right to regrade the entire assignment/exam, in which case your grade may be raised or lowered. All disputes must be submitted within 7 days of the return of the assignment.

**Additional Remarks:** Students are permitted (and encouraged) to discuss macroeconomics, including answers to problem sets. Copying is not allowed (including copying of code). Academic Dishonesty in the form of cheating, **failure to cite referenced sources**, or otherwise, will be reported to the Dean in adherence to College Policy.

**Note Selling:** Several commercial services have approached students regarding selling class notes/study guides to their classmates. Selling the instructor’s notes/study guides in this course is not permitted. Violations of this policy will be reported to the Dean of Students as academic misconduct (violation of course rules). Sanctions for academic misconduct may include a failing grade on the assignment for which the notes/study guides are being sold, a reduction in your final course grade, a failing grade in the course, among other possibilities. Additionally, you should know that selling a faculty member’s notes/study guides individually or on behalf of one of these services using UWO email, or selling material posted on OWL may also constitute a violation of UWO information technology and UWO intellectual property policies and additional consequences may result.

***Additional Departmental policies will be posted in a separate document online.***

## References

- [1] Garin, J., Lester, R., and Sims, E. (2018): “Intermediate Macroeconomics”, Mimeo.
- [2] Adda, J. and Cooper, R. (2003): “Dynamic Economics: Quantitative Methods and Applications,” MIT Press Books.
- [3] McCandless, G (2008): “The ABCs of RBCs.” Harvard University Press.
- [4] Adjemian, S., Bastani, H., Juillard, M., Karamé, F., Mihoubi, F., Perendia, G., Pfeifer, J., Ratto, M., and Villemot, S. (2011), “Dynare: Reference Manual, Version 4,” Dynare Working Papers, 1, CEPREMAP

## **Please Note Department Policies for 2018-2019**

Remember that the University expects all students to take responsibility for their own Academic Programs. Students should also check their registration to ensure they are enrolled in the correct courses.

1. Guidelines and policies for the Faculty of Social Science and the Department of Economics are posted online in the current Western Academic Calendar at:  
<http://westerncalendar.uwo.ca>.
2. Students must familiarize themselves with the “Rules of Conduct for Examinations”  
[http://www.uwo.ca/univsec/pdf/academic\\_policies/exam/administration.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/exam/administration.pdf).
3. **Cheating as an academic offence:** Students are responsible for understanding what it means to “cheat”. The Department of Economics treats cheating incidents very seriously and will investigate any suspect behavior. Students found guilty will incur penalties that could include a failing grade or being barred from future registration in other Economics courses or programs. The University may impose further penalties such as a notation on an official academic transcript, suspension or expulsion.
4. **Plagiarism:** Students must write their essays and assignments in their own words. When taking an idea/passage from another author, it must be acknowledged with quotation marks where appropriate and referenced with footnotes or citations. Plagiarism is an academic offence (see Scholastic Discipline for Undergraduate Students in the Western Calendar at [http://westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page\\_20](http://westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_20)).

Western University uses software to check for plagiarism and students may be required to electronically submit their work. Those found guilty will be penalized as noted in point 3.

5. It is a Department of Economics policy that **NO** assignments be dated, stamped or accepted by staff. Students must submit assignments in class or to the instructor during office hours.
6. When appealing a mark, students should refer to the Student Academic Appeals section in the current Western Academic Calendar at:  
[http://westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page\\_14](http://westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_14)  
Please note the relevant deadlines.

The Department will not consider an appeal unless an attempt has been made to settle the matter with the instructor first. Students who remain dissatisfied with the outcome may proceed with a written appeal (e-mails are not acceptable) to the Undergraduate Director in Economics, stating the reasons for their appeal. A checklist is provided at:  
[http://economics.uwo.ca/undergraduate/program\\_counselling/responsibilities\\_policies.html#appeals](http://economics.uwo.ca/undergraduate/program_counselling/responsibilities_policies.html#appeals).

7. Systematic adjustments of a class grade distribution (either up or down) can occur in Economics courses. The fact that grades have been adjusted is **not** grounds for an appeal.

8. Note the following add and drop deadlines:

Deadline to add a second term half course:

**Tuesday January 15, 2019**

Deadline to drop a second term half course:

**Thursday March 7, 2019**

9. Faculty of Social Science policy states that oversleeping or misreading an exam schedule is NOT grounds for a makeup. This rule applies to midterm and final exams in the Department of Economics.

### **Policy Regarding Makeup Tests and Final Examinations**

*Academic accommodation will **not** be granted automatically on request. Students **must** demonstrate by documentation that there are **compelling** medical or compassionate grounds before academic accommodation will be considered.*

Students who proceed to write a test or examination must be prepared to accept the mark. Rewriting tests or examinations, or having their value reweighted on a retroactive basis, is **not** permitted. Students must also book travel arrangements AFTER final exam dates have been posted as they must not conflict with test or final exams.

Unless medically incapable of doing so, students must notify their instructor prior to the test date or at least within **24 hours** when requesting a makeup exam. Failure to follow this procedure may result in denial of academic accommodation and a grade of zero. Students should also set up an appointment as soon as possible to meet with their instructor. If the instructor is not available, send an email message, copying the Undergraduate Coordinator at [econugrd@uwo.ca](mailto:econugrd@uwo.ca). **Notifying instructors of a missed exam does not automatically entitle students to a makeup.**

Students who seek a makeup exam must also provide supporting medical or other relevant documentation that their absence from a scheduled test or exam is beyond their control. Documentation should be submitted to the Academic Counselling Office of the student's *home* Faculty **as soon as possible (preferably within 24 hours of the scheduled test)**. Failure to follow this procedure may result in denial of academic accommodation and a grade of zero. If the documentation submitted is not acceptable, students will receive a zero for the missed test.

For personal illness, students may consult Student Health Services and request a Student Medical Certificate from the physician. If assessed by an off-campus doctor, students must obtain a certificate from his/her office at the time of the visit. The off-campus medical certificate form must also be used and can be found at:

[http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/medicalform.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf).

Notes stating "For Medical Reasons" are not considered sufficient.

For religious or compassionate circumstances, students should ask their Academic Counsellor what documentation to provide. If documentation is judged sufficient, the Academic Counsellor will issue a Recommendation for a Special Examination (a single form for midterms or a triple- color form for final exams). Once students have this form, they must contact their instructor as soon as possible to make arrangements. Even if approved by their Academic Counsellor, there is no guarantee that students will be allowed to write the makeup test/exam.

For final examinations, students need to seek permission from their *home* Faculty Counsellor, Instructor, and the Department Undergraduate Director. Failure to follow this procedure may result in a grade of zero. Students must ensure that the Special Examination form has been signed by the Instructor and Department Undergraduate Director and that the form is returned to the Academic Counselling Office for approval without delay. If approved, makeup examinations will be written within one month of the end of the exam period.

### **Policies Regarding Academic Accommodation**

The Faculty of Social Science's policies regarding academic accommodation is found at [http://counselling.ssc.uwo.ca/procedures/having\\_problems/index.html](http://counselling.ssc.uwo.ca/procedures/having_problems/index.html).

"Academic Rights and Responsibilities" are also outlined in the Western Calendar at <http://westerncalendar.uwo.ca/PolicyPages.cfm?PolicyCategoryID=1&command=showCategory&SelectedCalendar=Live&ArchiveID=>. Claiming that "you didn't know what to do" is not an acceptable excuse for not following the stated procedures.

### **Policy Regarding Class Attendance**

If the instructor deems a student's class attendance as unsatisfactory, that student may be prohibited from writing the final examination. If there is intent to make use of this University policy, the student will be notified in writing.

### **Statement on Mental Health and Support Services**

Students under emotional/mental distress should visit [http://uwo.ca/health/mental\\_wellbeing/](http://uwo.ca/health/mental_wellbeing/) for more information and a complete list of resources on how to obtain help.