# ADVANCED MACROECONOMIC THEORY I ECONOMICS EC3320A-001

Department of Economics Western University

Instructor's Name: Jacob Short September 2017

Office: 4033 SSC

**Phone**: (519) 661-2111 ext. 85302

E-mail: jacob.short@uwo.ca

**Office Hours**:

**Classroom meeting time(s) & location:** 

Lectures will be held Tuesday 9:30-11:30 and Thursday 9:30-10:30 in room SSC 2024.

Course website: <a href="https://owl.uwo.ca/portal">https://owl.uwo.ca/portal</a>

Undergraduate inquiries: 519-661-3507 SSC Room 4075 or econugrd@uwo.ca

#### Registration

You are responsible for ensuring you are registered in the correct courses. If you are not registered in a 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 <a href="https://student.uwo.ca">https://student.uwo.ca</a>. If you notice a problem, please contact your home Faculty Academic Counsellor immediately.

### **Prerequisite Note**

The prerequisite(s) for this course is (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 Description:**

In this course the Neoclassical Growth Model is developed and used as a tool for economic analysis. We start with a simpler dynamic macroeconomic model – the Solow model – to introduce the basic concepts. Foundations of the aggregate production function and the intertemporal competitive equilibria will also be presented. The Neoclassical Growth Model will then be developed. We will consider the implications of this model for fiscal policy evaluation, compare the model implications to data, and introduce some simple extensions. We will also discuss successes and limitations of our models in explaining cross-country income differences and dynamics.

This is a theory course. The main objective is to understand the neoclassical growth model and the ways it can be

used for applied macroeconomic analysis and for policy making. But we will often consider the underlying empirical issues and puzzles, which lead us to formulate particular models. This should help understanding of what is involved in economic modeling.

#### **Course Learning Outcomes:**

- Students will understand how the desire to consumption smooth is linked to parameters in CES preferences, and what the implications are as the desire to consumption smooth changes.
- 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 corresponding Euler equation.
- Students will define and characterize a competitive equilibrium, and link the resulting allocation with that of the benevolent social planner using the welfare theorems.
- Students will understand what it means to calibrate the Neoclassical Growth Model.
- Students will be able to perform comparative statics exercises on the balanced growth path allocation in the Neoclassical Growth Model, and understand the transitional dynamics of the economy in the Neoclassical Growth Model as it converges to a balanced growth path.
- Students will be able to use the Neoclassical Growth Model for growth accounting, and will be able to evaluate the model based on balanced growth path predictions.
- Students will be able to extend the Neoclassical growth model to analyze short-run movements of the economy.

#### **Textbook(s):**

There is no required text for this course. You are responsible for all content covered in lecture and any material posted on OWL. Note that I do not supply class notes

Recommended reading are:

Parente, Stephen L., and Edward C. Prescott, Barriers to Riches, 2000, MIT Press.

A classic reference for the first two topics is:

Miller, Merton H., and Charles W. Upton *Macroeconomics: A Neoclassical Introduction*, 1974. Reissued as a paperback in 1986. University of Chicago Press.

These topics are also covered in:

Williamson, Stephen D., Macroeconomics, 2005. 2nd edition. Pearson Addison Wesley.

Two more recent books on the subject of growth must be listed:

Helpman, Elhanan, The Mystery of Economic Growth, 2004. Belknap Harvard.

Weil, David N., Economic Growth, 2005. Pearson Addison Wesley.

The books are on reserve at Weldon, as is the study guide for 2<sup>nd</sup> US edition of Williamson.

#### COURSE REQUIREMENTS AND STUDENT EVALUATION

Student evaluation will be based on the results obtained in homework assignments, unannounced quizzes in class, two midterm tests, and a final exam. The weight given to each assignment is the following:

	Weight
Homework assignments	15%
In-class Quizzes	10%
Midterm Exam	35%
Final Exam	40%

All the tests are cumulative (with emphasis on the material covered since the last examination). If a student has a conflict with an exam, they must notify the instructor a minimum of one week in advance of the exam in order to take any make-up exam. In case a student misses the midterm or a quiz due to sickness the student must present an official document justifying the absence and the weight of that exam or quiz will be added to the final exam or remaining quizzes, respectively (i.e. if you miss the midterm the final exam will now account for 75% of your grade). In case of lack of justification for the absence a grade of zero will be attributed.

Midterm Exam will be (tentatively scheduled) Thursday, November 2<sup>nd</sup>, 2017.

The final exam will be held during the final exam period in a room to be announced.

Homework will be assigned approximately every three weeks – an approximate of 4 problem sets – with a specific deadline (usually a week). The homework will be graded and returned to the student the following week. The homework will have approximately the same structure and length as an examination so that the students become familiar with the type of questions and structure of an exam. Note that the homework has a significant weight on the final grade. All homework must be returned by the deadline. Homework received after the deadline will not be accepted and a grade of zero will be attributed. Homework may NOT be submitted by email.

There will be a number of unannounced quizzes in class. They will test both material covered in class and essential background knowledge.

You are responsible for all content covered in lectures and in the assigned readings. Some readings content may not be covered in lectures and some lecture content may not be in the readings.

#### **COURSE OUTLINE**

STEPPING STONES: THE SIMPLE MODELS

1. Solow Model

STEPPING STONES: USEFUL INGREDIENTS

- 2. Aggregate Production Function
- 3. Intertemporal choice

#### NEOCLASSICAL GROWTH MODEL

- 4. The Model
  - 4.1. Ingredients
  - 4.2. Equilibrium
  - 4.3. Steady State
  - 4.4. Balanced Growth Path
- 5. Consumption
- 6. Calibration

## APPLICATIONS OF THE MODEL (as time permits)

- 7. Fiscal Policy
- 8. Distribution of Income Across Factors of Production and Inequality
- 9. Structural Change and International Capital Flows
- 10. Explaining Cross-Country Income Differences and Dynamics

#### **Please Note**

#### Department Policies for 2017 – 2018

Remember that the University expects all students to take responsibility for their own academic Programs. Also remember to check your registration to make sure you 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 <a href="http://westerncalendar.uwo.ca">http://westerncalendar.uwo.ca</a>.
- 2. Students must familiarize themselves with the "Rules of Conduct for Examinations" <a href="http://westerncalendar.uwo.ca/2017/pg136.html">http://westerncalendar.uwo.ca/2017/pg136.html</a>.
- 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 your official academic transcript, suspension or expulsion.
- 4. Plagiarism: Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author, they must acknowledge it by using quotation marks where appropriate and referencing with footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the current UWO Academic Calendar at <a href="http://westerncalendar.uwo.ca/2017/pg113.html">http://westerncalendar.uwo.ca/2017/pg113.html</a>).

The University of Western Ontario uses software to check for plagiarism and students may be required to submit their written work in electronic form. Those found guilty will have penalties imposed as noted in point 3.

- 5. It is Department of Economics policy that **NO** assignments be dated, stamped or accepted by staff. Students are responsible for submitting assignments in class or to the instructor during office hours.
- 6. When appealing a mark, students should refer to the University's Procedures in the current UWO Academic Calendar (<a href="http://westerncalendar.uwo.ca/2017/pg112.html">http://westerncalendar.uwo.ca/2017/pg112.html</a>). Please note the relevant deadlines.

The Department will not consider any appeal unless an attempt has been made to settle the matter first with your instructor. If after this discussion you remain dissatisfied with a grade or other decision, you may proceed with a written appeal (e-mails are not acceptable) to the Undergraduate Director in Economics, stating the reasons for your appeal. A useful form and checklist is provided at (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:

Last day to <u>add</u> a 1<sup>st</sup> term half course: Friday, September 15<sup>th</sup>, 2017

Last day to <u>drop</u> 1<sup>st</sup> term half course without academic penalty:

Monday, November 13th, 2017

Last day to <u>add</u> a 2<sup>nd</sup> term half course: Tuesday, January 16<sup>th</sup>, 2018

Last day to <u>drop</u> 2<sup>nd</sup> term half course without academic penalty: **Wednesday, March 7**<sup>th</sup>, **2018**  9. Faculty of Social Science policy states that oversleeping or misreading an exam schedule is not an excuse for a make-up. This rule applies to all mid-term tests and final exams in the Department of Economics.

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

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

If you decide to write a test or an examination, you must be prepared to accept the mark you earn. Rewriting tests or examinations, or having the value of the test or examination reweighted on a retroactive basis, is **not** permitted. Book airline flights after you know the dates of your final examinations. Airline flights must not conflict with test or final exams.

If you are requesting a makeup test for a midterm or a final examination, unless medically incapable, notify your instructor by email or phone, preferably prior to the scheduled date of the test, but definitely within **24 hours** of the date of the test or exam. Failure to follow this procedure may result in denial of a request for academic accommodation or result in a grade of zero. Set up an appointment as soon as possible to meet personally with your instructor. If the instructor is not available, you may send an email message, copying the Undergraduate Coordinator at <a href="mailto:econugrd@uwo.ca">econugrd@uwo.ca</a> (Social Science Room 4075). **Notifying your instructor of a missed test or exam does not automatically entitle you to a makeup test**.

Students who seek a makeup test or examination must provide medical or other relevant verification that their absence from a regularly scheduled test or examination is beyond their control. Documentation must support your reasons. Medical documentation should be given to the Academic Counselling Office of your *home* Faculty <u>as soon as possible (preferably within 24 hours of the test)</u> if you know you may not be able to write your final examination on the scheduled day and time. Failure to follow this procedure, or to provide supporting documentation, may result in denial of a request for academic accommodation or result in a grade of zero. If your documentation is not acceptable, you will be given a zero for the missed test.

For personal illness, if you consult Student Health Services regarding your illness or personal problem, you should request a Student Medical Certificate from the physician. If you were seen by an off-campus doctor, obtain a certificate from his/her office at the time of your visit. The off-campus medical certificate form must be used and can be found at: <a href="http://www.uwo.ca/univsec/pdf/academic\_policies/appeals/medicalform.pdf">http://www.uwo.ca/univsec/pdf/academic\_policies/appeals/medicalform.pdf</a>. Notes stating "For Medical Reasons" are not considered sufficient.

For any other circumstances, if you are not sure what documentation to provide, ask your Academic Counsellor. If your 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 examinations). Once you have this form, contact your instructor as soon as possible to make arrangements. Even if approved from your home faculty Academic Counsellor, there is no guarantee that you will be allowed to write the makeup test and exam.

For final examinations, you need permission from your *home* Faculty Counsellor, your instructor, and the Department Undergraduate Director. Failure to follow this procedure may result in an examination grade of zero. You 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. Make-up final examinations, if permitted, will be written within one month of the end of the exam period.

#### **Policies Regarding Academic Accommodation**

Information about the Faculty of Social Science's policies regarding academic accommodation is found on its website at <a href="http://counselling.ssc.uwo.ca/procedures/havingproblems.asp">http://counselling.ssc.uwo.ca/procedures/havingproblems.asp</a> or in Social Science Room 2105. Your "Academic Rights and Responsibilities" are also outlined in the current UWO Calendar at <a href="http://westerncalendar.uwo.ca/2017/pg111.html">http://westerncalendar.uwo.ca/2017/pg111.html</a>. 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 your instructor views your class attendance as unsatisfactory, you can be prohibited from writing the final examination. If there is intent to make use of this University policy, you will be notified in writing.

#### Statement on Mental Health and Support Services

If you or someone you know is experiencing emotional/mental distress, there are several resources here at Western to assist you. Please visit <a href="http://www.uwo.ca/uwocom/mentalhealth/">http://www.uwo.ca/uwocom/mentalhealth/</a> for more information and a complete list of resources, as well as how to obtain help.