

# Economic Growth and Technological Change

Economics 3393B- Section 550

**Department of Economics**

Winter 2023

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## Course Information

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**Office Hours:** Mondays 1:30 pm- 2:30 pm, or by appointment

**Lectures:** Wednesdays 6:30 pm - 9:30 pm

**Classroom:** H111

## Course Description

Why are some countries richer than others? What makes countries grow at different rates? What is the effect of political and social institutions on economic performance? How rising inequality hurts economic growth? This course helps develop your analytic reasoning about the complex issues surrounding economic growth. By breaking down the process of growth into various channels, it helps you predict and evaluate the outcomes of changes in the economy. This course covers economic theories of economic growth and technological change and their application in the study of the historical evolution of the world economy.

## Course Objectives

- By the end of this course a student should be mastered the basic growth models.
- For each topic, the student should be able to explain how and why it affects the growth rate of a country and be able to make predictions.
- Students will gain skills in independent learning and research, specifically, how to find and interpret related data and statistics; how to identify, read and evaluate economic research and journal articles.
- Students will learn skills in writing and oral presentation.

## Prerequisite(s)

Economics 2220A/B, Economics 2221A/B, Economics 2260A/B, Economics 2261A/B.

## Antirequisite(s)

None

## Class Methods

Classes will be primarily lecture based with some time devoted to discussion and other learning activities.

## Course Website

A website on [OWL](#) will be used to post materials relating to the course. This site is NOT to be used as a substitute for class attendance. Not everything we do is posted on the site and any material covered in the class is always subject to examination.

## Textbooks

- Introduction to Economic Growth, Third Ed., by Charles I. Jones and Dietrich Vollrath, 2013, W.W. Norton.
- Economic Growth, by David N Weil, Pearson, 3rd edition. The eBook version of Economic Growth that can be accessed here:  
[Economic Growth\[electronic resource\]/David N.Weil](#)

**Note:** Additional readings may be assigned.

## Course Outline

1. Mathematical Review & Terminology
2. Introduction
  - The Facts of Economic Growth (Jones: Ch.1)
  - Understanding Economic Growth (Jones: Ch.11)
  - Amartya Sen, “[Quality of Life: India vs. China](#)”, New York Review of Books, May 12, 2011
3. The Solow Model
  - Physical Capital (Weil: Ch.3)
  - The Solow Model (Jones: Ch.2)
4. The Solow Model with Human Capital
  - Human Capital (Weil: Ch.6)
  - Empirical Application of Neoclassical Growth Models (Jones: Ch.3)
5. Technology, Endogenous Growth
  - The Economics of Ideas (Jones: Ch.4)
  - The Engine of Growth (Jones: Ch.5)
  - [Imitate or Die](#), The Economist, November 8, 2007.
  - [Fast and Furious: Chinese private firms are embracing innovation](#), The Economist, September 12, 2015.

6. The AK Model
  - Alternative Theories of Economic Growth (Jones: Ch.9)
7. Productivity, Technology and Efficiency
  - Efficiency (Weil: Ch.10)
  - Paul Krugman: [The Myth of Asia's Miracle](#), Foreign Affairs, Nov/Dec 1994
8. Institutions
  - Social Infrastructure and Long-Run Economic Performance (Jones: Ch.7)
9. Income Inequality and Economic Development
  - Income inequality (Weil: Ch.13)
  - [Is income inequality rising around the world?](#), World Economic Forum, November 23, 2018.
10. The Role of Culture in Economic Development
  - Culture (Weil: Ch.14)
  - [What Role Does Culture Play in Development?](#), World Economic Forum, December 10, 2014.
11. Natural Resources & Environment
  - Geography, Climate, and Natural Resources (Weil: Ch.15)
  - Resources and the Environment at the Global Level (Weil: Ch.16)
12. International Openness and Economic Growth
  - Growth in the Open Economy (Weil: Ch.11)
  - [Why Openness to Trade is Important for Global Growth](#), World Economic Forum, November 30, 2015.

**Note:** The extent and coverage will depend on time availability

## Course Evaluation

The assessment in this course will be based on the following:

Research Proposal	34%
Midterm Examination (Feb 8 )	20%
Presentation (Last week of classes)	6%
Final Examination	40%
	100%

- **You will require to upload your original work in a digital format via OWL before 11:55 pm (EDT) on due dates. Late submissions will not be accepted and will receive a mark of zero.**
- The research topic of each group must be approved by the instructor.
- Your research proposal will be submitted on OWL in three different stages.
  1. **Literature Review (1800-2000 words, Due date: January 25, 10%):** The literature review is crucial and it should be a critical review. You must demonstrate that you are familiar with the literature and you should not leave any stones unturned in reviewing the literature. If you do not have 10 or more references, then you have not done your job. You must also point out what contribution you plan to make to the literature.

2. **Introduction (500-800 words, Due date: February 15, 7% ):** Begin by discussing the problem that you wish to address. Whatever it is that you want to focus on, it is imperative that you state the problem or problems that you will specifically address in your research.
  3. **Data & Methods (500-800 words, Due date: March 1, 7% ):**
    - Describe the data needed and where it comes from. Provide summaries and graphs of the data. Specify which variables you are using and clarifying how you intend to use them to answer your question.
    - Following on your intended contribution, you need to describe the approach you will use. This requires that you identify the models and procedures that you intend to use. If you are using econometric methods, then you must state the regression model and the estimation procedure. If you are using a mathematical programming approach, write the objective function and constraints. If the model can be solved analytically, provide the solution. If more than one model is to be used, describe all of them. If you are using calibration methods, describe how you will do this. The reader needs to know what you intend to do.
- **Final Draft of Research Proposal (Due date: March 8, 10%):** Research proposal template will be posted on OWL. The final version of your proposal must include all parts of the proposal submitted previously. It should be written professionally, with the aim of submitting it to a research committee. Only one bibliography is expected at the end of the proposal.
  - There will be a talk on how to write a research proposal by Mr. Patrick Gavin from Huron's Writing Services during class time on **Jan 25**. [The attendance in this session is mandatory. Absence warrants losing 2 marks.](#)
  - Best research proposals will be encouraged to apply for CURL Research Fellowship Awards (Due Date: March 15).
  - **Presentation of your research proposal:** You will have 20 minutes to present the final version of your research proposal on April 5th.
  - There will be no make-up test for the missed mid-term examination. Failure to write the midterm exams will result in a grade of zero without proper documentation. A student who misses a test must provide documentation to the counseling office (not the professor) and if this documentation is accepted as a valid reason for missing a test then (and only then) the weight of the missed test will be reallocated to the final exam. This is the only method of accommodation for missed tests that will be used in this course.
  - The final exam will be held during the April Examination Period as scheduled by the University.

## Communication:

- All course materials and announcements will be posted on OWL. Please visit the portal often.
- Office hours are a perfect opportunity to approach me and discuss course material. Think of my office hours as an opportunity to receive free tutoring each week. If you cannot attend office hours due to a course conflict, you can email me and we schedule a mutually agreeable time to meet.
- I will usually respond to email within a day (except on weekends and holidays). However, I will only read emails sent through a UWO account for record-keeping and identification purposes. Please put "ECON3393B" in the message title or your email may be caught by my spam filter.
- I will only respond to email posing questions that can be answered in a sentence or two; otherwise you should see me during my office hours.

## Satisfactory Performance Criteria:

Students must fulfill all of the preceding course requirements in order to achieve a passing grade. No course grades are final until approved by the Faculty Dean.

## Regrading:

Students seeking reappraisal of their graded work should contact the instructor within a week after they receive their grades. Students are required to send e-mail to the instructor with the subject "ECON3393B-REQUEST FOR REGRADING" explaining the reason(s) for requesting a reappraisal of their graded work. Note: Reappraisals that do not conform to this standard will not be considered.

## Treatment of Course Materials

Student, teaching, assignment or professor materials created for this course (including but not limited to lecture slides, presentations and posted notes, labs, case studies, assignments, exams and solutions to assignments and exams) remain the intellectual property of the author(s). They are intended for personal use and **may not be reproduced or redistributed without prior written consent of the author(s)**.

## Attendance

All class participants are required to attend class on a regular basis. Please see Academic Policies & Regulations regarding attendance.

## Recording Lectures or Photography in Class

- Photography from the board or class is NOT permitted.
- Recordings (audio or video) are not permitted without explicit, written permission of the instructor. Permitted recordings may not be distributed or shared.

## **Appendix to Course Outlines: Academic Policies & Regulations Fall/Winter 2022**

### **Pandemic Contingency**

Huron will continue to follow the guidance of public health and government officials. It is anticipated that there will be no further disruptions to in-person instruction. This is subject to change.

### **Student Code of Conduct**

Membership in the community of Huron University College and Western University implies acceptance by every student of the principle of respect for the rights, responsibilities, dignity and well-being of others and a readiness to support an environment conducive to the intellectual and personal growth of all who study, work and live within it. Upon registration, students assume the responsibilities that such registration entails. While in the physical or online classroom, students are expected to behave in a manner that supports the learning environment of others. Please review the Student Code of Conduct at: <https://huronatwestern.ca/sites/default/files/Res%20Life/Student%20Code%20of%20Conduct%20-%20Revised%20September%202019.pdf>.

### **Prerequisite and Antirequisite Information**

Students are responsible for ensuring that they have successfully completed all course prerequisites and that they have not completed any course antirequisites. Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

### **Attendance Regulations for Examinations**

A student is entitled to be examined in courses in which registration is maintained, subject to the following limitations:

- 1) A student may be debarred from writing the final examination for failure to maintain satisfactory academic standing throughout the year.
- 2) Any student who, in the opinion of the instructor, is absent too frequently from class or laboratory periods in any course will be reported to the Dean of the Faculty offering the course (after due warning has been given). On the recommendation of the Department concerned, and with the permission of the Dean of that Faculty, the student will be debarred from taking the regular examination in the course. The Dean of the Faculty offering the course will communicate that decision to the Dean of the Faculty of registration.

Review the policy on Attendance Regulations for Examinations here: [Academic Calendar - Western University \(uwo.ca\)](#)

### **Statement on Academic Offences**

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following website: [Academic](#)

[Calendar - Western University \(uwo.ca\)](http://www.uwo.ca) .The appeals process is also outlined in this policy as well as more generally at the following website:

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

### **Turnitin.com**

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

### **Statement on Use of Electronic Devices**

It is not appropriate to use electronic devices (such as, but not limited to, laptops, tablets, cell phones) in the classroom for non-classroom activities. Such activity is disruptive and distracting to other students and to the instructor, and can inhibit learning. Students are expected to respect the classroom environment and to refrain from inappropriate use of technology and other electronic devices in class.

### **Statement on Use of Personal Response Systems (“Clickers”)**

Personal Response Systems (“clickers”) may be used in some classes. If clickers are to be used in a class, it is the responsibility of the student to ensure that the device is activated and functional. Students must see their instructor if they have any concerns about whether the clicker is malfunctioning. Students must use only their own clicker. If clicker records are used to compute a portion of the course grade:

- the use of somebody else’s clicker in class constitutes a scholastic offence
- the possession of a clicker belonging to another student will be interpreted as an attempt to commit a scholastic offence.

### **Academic Consideration for Missed Work**

All students pursuing academic consideration, regardless of type, must contact their instructors no less than 24 hours following the end of the period of absence to clarify how they will be expected to fulfill the academic responsibilities missed during their absence. **Students are reminded that they should consider carefully the implications of postponing tests or midterm exams or delaying submission of work, and are encouraged to make appropriate decisions based on their specific circumstances.**

Students who have conditions for which academic accommodation is appropriate, such as disabilities or ongoing or chronic health conditions, should work with Accessible Education Services to determine appropriate forms of accommodation. Further details concerning policies and procedures may be found at: <http://academicsupport.uwo.ca/>.

### **Policy on Academic Consideration for a Medical/ Non-Medical Absence**

- (a) **Consideration on Medical Grounds for assignments worth *less than 10%* of final grade: Consult Instructor Directly and Contact Academic Advising**

When seeking consideration on **medical grounds** for assignments worth *less than 10%* of the final course grade, the student should contact the instructor directly. The student need only share broad outlines of the medical situation. The instructor **may** require the student to submit documentation to the academic advisors, in which case she or he will advise the student and inform the academic advisors to expect documentation. If documentation is requested, the student will need to complete and submit the [Student Medical Certificate](#). The instructor may **not** collect medical documentation. The advisors will contact the instructor when the medical documentation is received, and will outline the severity and duration of the medical challenge as expressed on the Student Medical Certificate and in any other supporting documentation. The student will be informed that the instructor has been notified of the presence of medical documentation, and will be instructed to work as quickly as possible with the instructor on an agreement for accommodation.

**b) Medical Grounds for assignments worth 10% or more of final grade: Go Directly to Academic Advising**

University Senate policy, which can be found at [Academic Calendar - Western University \(uwo.ca\)](#) requires that all student requests for accommodation on medical grounds for assignments worth 10% or more of the final grade be made directly to the academic advising office of the home faculty (for Huron students, the “home faculty” is Huron), with supporting documentation in the form (minimally) of the Senate-approved Student Medical Certificate found at:

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

The documentation is submitted in confidence and will not be shown to instructors. The advisors will contact the instructor when the medical documentation is received, and will outline the severity and duration of the medical challenge as expressed on the Student Medical Certificate and in any other supporting documentation. The student will be informed that the instructor has been notified of the presence of medical documentation, and will be instructed to work as quickly as possible with the instructor on an agreement for accommodation. The instructor will not normally deny accommodation where appropriate medical documentation is in place and where the duration it describes aligns with the due date(s) of assignment(s). Before denying a request for accommodation on medical grounds, the instructor will consult with the Dean. The instructor’s decision is appealable to the Dean.

**c) Consideration on Non-Medical Grounds: Consult Huron Support Services/Academic Advising, or email [huronsss@uwo.ca](mailto:huronsss@uwo.ca).**

Students seeking academic consideration for a **non-medical** absence (e.g. varsity sports, religious, compassionate, or bereavement) will be required to provide appropriate documentation. All consideration requests must include a completed [Consideration Request Form](#). Late penalties may apply at the discretion of the instructor.

Please review the full policy on Academic Consideration for medical and non-medical absence at: [accommodation\\_medical.pdf \(uwo.ca\)](#). Consult [Huron Academic Advising](#) at [huronsss@uwo.ca](mailto:huronsss@uwo.ca) for any further questions or information.

**Support Services**

For advice on course selections, degree requirements, and for assistance with requests for medical accommodation, students should email an Academic Advisor in Huron’s Student Support Services at



[huronsss@uwo.ca](mailto:huronsss@uwo.ca). An outline of the range of services offered is found on the Huron website at: <https://huronatwestern.ca/student-life/student-services/>.

Department Chairs, Program Directors and Coordinators are also able to answer questions about individual programs. Contact information can be found on the Huron website at: <https://huronatwestern.ca/contact/faculty-staff-directory/>.

If you think that you are too far behind to catch up or that your workload is not manageable, you should consult your Academic Advisor. If you are considering reducing your workload by dropping one or more courses, this must be done by the appropriate deadlines. Please refer to the Advising website, <https://huronatwestern.ca/student-life/student-services/academic-advising/> or review the list of official Sessional Dates on the Academic Calendar, available here: <http://www.westerncalendar.uwo.ca/SessionalDates.cfm>.

You should consult with the course instructor and the Academic Advisor who can help you consider alternatives to dropping one or more courses. Note that dropping a course may affect OSAP and/or Scholarship/Bursary eligibility.

Huron Student Support Services: <https://huronatwestern.ca/student-life/student-services/>  
 Office of the Registrar: <https://registrar.uwo.ca/>  
 Student Quick Reference Guide: <https://huronatwestern.ca/student-life/student-services/#1>  
 Academic Support & Engagement: <http://academicsupport.uwo.ca/>  
 Huron University College Student Council: <https://huronatwestern.ca/student-life/beyond-classroom/hucsc/>  
 Western USC: <http://westernusc.ca/your-services/#studentservices>

### **Wellness and Health Supports at Huron and Western**

University students may encounter setbacks from time to time that can impact academic performance. Huron offers a variety of services that are here to support your success and wellbeing. All Huron staff and faculty have received training on responding to disclosures of Gender-Based Sexual Violence (GBSV); students should know that the Community Safety Office is a resource for survivors, providing support and, if desired, guidance while referring them to the further supports that they may require. Please visit <https://huronatwestern.ca/student-life-campus/student-services/wellness-safety> for more information or contact staff directly:

Wellness Services: [huronwellness@huron.uwo.ca](mailto:huronwellness@huron.uwo.ca)  
 Community Safety Office: [safety@huron.uwo.ca](mailto:safety@huron.uwo.ca)  
 Additional supports for Health and Wellness may be found and accessed at Western through, <https://www.uwo.ca/health/>.

Western Calendar - Policy Pages -

[Academic Calendar - Western University \(uwo.ca\)](https://www.uwo.ca/academic-calendar/)