



**ECO4270:**  
**Economic Growth**  
95717, Section 1, 3 Credit Hours  
Department of Economics, College of Arts & Sciences

## **COURSE SYLLABUS**

Last Updated: 11/30/2021

This course is currently under construction. Any significant change to the syllabus will be announced.

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Semester: Fall 2021

Class Meeting Days: Tuesdays and Thursdays

Class Meeting Time: 11:00 am to 12:15 pm

Class Meeting Location: ISA 3050

Instructor: Diogo Baerlocher

Office Location: CMC207D

Office Hours: by appointment

Email: baerlocher@usf.edu

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### **I. University Course Description**

This course provides an introduction to the theory of economic growth, the process whereby the level of real output per capita increases over time. Emphasis is on the role of factor accumulation and productivity growth and their underlying fundamentals.

### **II. Course Prerequisites**

ECO 3101 or ECP 3703

### **III. Course Purpose**

The main goal of this course is to answer the following question: *why are some countries so much richer than others?* We search for reasonable explanations by dividing the course into three main parts. At first, we want to understand the role of *accumulation of factors of production* -- mainly, physical and human capital -- on different levels of wealth across nations. Then, we look at the ability of countries to either produce or copy new technologies and how efficiently they can use them together with the factors of production to enhance *productivity*. Lastly, we focus on how political, cultural, and geographical differences across societies may explain variations in the modern economic development of nations.

### **IV. How to Succeed in this Course**

Successful students in this class complete all readings **BEFORE** the first lecture each week. Lectures are designed to further and deepen the knowledge, concepts, and skills from the readings – not just repeat the information.

## V. Student Learning Outcomes

Below, you can find the most important outcomes students are expected to achieve by the end of the semester:

1. Explain the magnitude of income differences across countries today and 200 years ago;
2. Use the Solow model to determine how much of income differences can be explained by physical capital and population growth;
3. Use the Solow model to determine how much of income differences can be explained by human capital;
4. Explain how important are factor accumulation and productivity in explaining income differences;
5. Explain the demographic transition and its implications for the breakdown of the Malthusian model;
6. List and briefly explain the fundamental causes of economic growth.

## VI. Required Texts

- Weil, David, Economic Growth, 3 ed. New York, NY: Routledge, 2014
- Access to spreadsheet software, i.e., Microsoft Excel

## VII. Grading Scale

Grading Scale (%)	
94-100	A
90 – 93	A-
85 – 89	B+
80 – 84	B
75 – 79	B-
70 – 74	C+
65 – 69	C
60 – 64	C-
57 – 59	D+
54 – 56	D
50 – 53	D-
0 – 49	F

This scale is subjected to change at the instructor's discretion. Changes can only improve students' outcomes.

## VIII. Grade Categories and Weights

Assessment	Percent of Final Grade
Midterms 1 & 2	30% (each)
Graded Quizzes	40% (Average)
Final (optional)	30% (Replaces the lowest midterm)

## IX. Assignments

- **Graded Quizzes:** The best way to learn is by testing your knowledge right after lectures. The quizzes are intended to complement lectures helping students to test what they learned every week. Quizzes are short multiple-choice questions due on Fridays at 11:59 pm. The two lowest grades are dropped.
- **Pre-lecture Quizzes:** One of the building blocks of learning is thinking about the problem beforehand. Students will answer a quiz on the topic before lectures every week. Pre-lecture quizzes are due on Tuesdays at 11:00 am. This quiz is not graded, however, you can only take the graded quiz after taking the pre-lecture quiz.
- **Midterms and Final:** Midterms and final are in-class exams composed of multiple-choice and essay/mathematical questions to be taken in class. Multiple-choice questions are similar to questions in the quizzes, whereas essay/mathematical questions reflect discussions and exercises from lectures. All exams are individual and closed-book. Cheat sheets are not allowed. Students can use calculators with no access to the internet.

## X. Grade Dissemination

You can access your scores at any time using "Grades" in Canvas.

## XI. Course Schedule

Week (Date – Monday)	Topics and Learning Objectives
<b>Week 1 (Aug 23)</b>	<b>The Facts to be Explained (Chapter 1 &amp; Section 2.3)</b> <ul style="list-style-type: none"><li>• State the two questions of study in economic growth and how they are connected.</li><li>• Explain the magnitude of income differences across countries today and 200 years ago.</li><li>• Explain the key features of trend growth per capita gross domestic product from a contemporary and historical perspective.</li><li>• Explain why we need to be careful interpreting correlations found in data.</li></ul>

<p><b>Week 2 (Aug 30)</b></p>	<p><b>The Solow Model (Chapter 3 &amp; Section 4.2)</b></p> <ul style="list-style-type: none"> <li>• List the properties of physical capital</li> <li>• Describe the main features of the neoclassical production function and show that income per capita is a function of the stock of physical capital per capita</li> <li>• Show that the growth of the stock of physical capital per capita is a function of the current stock of physical capital.</li> <li>• Use the Solow model to show that the stock of physical capital is constant in the steady-state</li> <li>• Analyze and interpret the effects of changes in the investment rate in the level and growth of income per capita</li> <li>• Explain how to add population growth into the Solow model and analyze and interpret the effects of changes in the rate of population growth in the level and growth of income per capita</li> <li>• Use the Solow model to determine how much income differences can be explained by physical capital and population growth</li> </ul>
<p><b>Week 3 (Sept 6)</b></p>	<p><b>The Extended Solow Model: Human Capital (Chapter 6)</b></p> <ul style="list-style-type: none"> <li>• Explain how human capital can be measured in the form of health and the form of education</li> <li>• Explain cross-country differences in education attainment</li> <li>• Show how to introduce human capital into the Solow model</li> <li>• Use the Solow model to determine how much of income differences can be explained by human capital</li> <li>• Explain how we can improve the measurement of human capital.</li> <li>• Explain how can we re-interpret the factor's shares to find that Extended Solow Model can explain most of the income differences across countries</li> </ul>
<p><b>Week 4 (Sept 13)</b></p>	<p><b>The Measure of our Ignorance: Measuring Productivity (Chapter 7)</b></p> <ul style="list-style-type: none"> <li>• Perform a development accounting and analyze its results</li> <li>• Explain how important are factor accumulation and productivity in explaining income differences</li> <li>• Perform a growth accounting and analyze its results</li> <li>• Explain how important are factor accumulation and productivity growth in explaining the growth of income</li> </ul>
<p><b>Week 5 (Sept 20)</b></p>	<p><b>Technology (Chapter 8 and the mathematical appendix of Chapter 9)</b></p> <ul style="list-style-type: none"> <li>• Explain the non-rival and non-excludable features of technology and its consequences for the production of new technology.</li> <li>• Construct a one-country model of technology creation and interpret the role of the population for income growth.</li> <li>• Show how we can modify the technology production function and re-interpret the role of the population for income growth</li> <li>• Construct a two-country model of technology adoption and analyze and interpret the effects of changes in the share of workers in the R&amp;D sector</li> <li>• Explain possible barriers to international technology transfer</li> </ul>
<p><b>Week 6 (Sept 27)</b></p>	<p><b>Efficiency (Chapter 10)</b></p> <ul style="list-style-type: none"> <li>• Perform a decomposition of productivity into technology and efficiency and interpret the results</li> <li>• List five types of inefficiencies and explain them</li> </ul>

	<ul style="list-style-type: none"> <li>• Explain how misallocation of factors among sectors can happen due to wage policy</li> <li>• Explain how misallocation of factors among firms can happen because of political benefits towards small firms</li> </ul>
<b>Week 7 (Oct 4)</b>	<b>Midterm 1 (Covers weeks 1 to 6)</b> <ul style="list-style-type: none"> <li>• Tuesday: Review Session</li> <li>• Thursday: Exam in class</li> </ul>
<b>Week 8 (Oct 11)</b>	<b>Regime Change: The Malthusian model (Chapter 4)</b> <ul style="list-style-type: none"> <li>• Explain the facts of economic growth before the industrial revolution.</li> <li>• Explain the key mechanisms at work in the Malthusian model and determine the steady-state equilibrium</li> <li>• Explain the demographic transition and its implications for the breakdown of the Malthusian model</li> <li>• List and briefly explain the motives behind the mortality transition</li> <li>• List and briefly explain the motives behind the fertility transition</li> </ul>
<b>Week 9 (Oct 18)</b>	<b>Government and the Reversal of Fortune (Chapter 12)</b> <ul style="list-style-type: none"> <li>• List the market failures often cited as justification for government intervention in the economy.</li> <li>• Explain the equity efficiency trade-off</li> <li>• Discuss how the conflict trap can be relevant for economic development</li> <li>• List and explain reasons why governments do things that are bad for economic growth</li> <li>• Discuss how European colonization caused a reversal of fortune among former colonies</li> </ul>
<b>Week 10 (Oct 25)</b>	<b>Geography: Guns, Germs, and Steel (Chapter 15)</b> <ul style="list-style-type: none"> <li>• Explain how the location of societies in the globe can explain their economic performance</li> <li>• List and discuss the channels through which climate can cause economic growth</li> <li>• Explain the resource curse and its potential causes</li> <li>• Explain how the shape of Eurasia and the availability of useful plant and animal species caused the development of European and Asian societies before the colonization era</li> </ul>
<b>Week 11 (Nov 1)</b>	<b>Culture and the Shaping of Societies (Chapter 14)</b> <ul style="list-style-type: none"> <li>• List some aspects of culture that are relevant for economic behavior.</li> <li>• Explain the challenges in measuring aspects of culture and what are the data often used.</li> <li>• Explain social capital and how it is important for economic growth</li> <li>• Provide examples of how culture can be shaped from historical events that persist over time</li> </ul>
<b>Week 12 (Nov 8)</b>	<b>What we learned and what we did not learn</b> <ul style="list-style-type: none"> <li>• Provide an overview of proximate and fundamental causes of income differences across countries</li> <li>• Briefly discuss potential causes not covered, such as trade and income inequality</li> <li>• List the open questions</li> </ul>

	<ul style="list-style-type: none"> <li>• NO CLASS ON THURSDAY</li> </ul>
<b>Week 13 (Nov 15)</b>	<b>Midterm 2 (Covers weeks 8 to 12)</b> <ul style="list-style-type: none"> <li>• Tuesday: Review Session</li> <li>• Thursday: Exam in class</li> </ul>
<b>Week 14 (Nov 22)</b>	<b>Happy Thanksgiving!</b>
<b>Week 15 (Nov 29)</b>	<b>Contemporary Issues: Population aging and Environment (Chapters 5 and 16)</b> <ul style="list-style-type: none"> <li>• Explain the consequences of the slowdown in population growth on income per capita</li> <li>• Demonstrate the effects of the demographic transition on the age composition of the population</li> <li>• Explain the demographic gift</li> <li>• Explain the tragedy of commons</li> <li>• Discuss what is sustained development</li> <li>• Calculate green GDP</li> </ul>

\* Note: The Schedule is subject to revision

## **XII. Standard University Policies**

Policies about disability access, religious observances, academic grievances, academic integrity and misconduct, academic continuity, food insecurity, and sexual harassment are governed by a central set of policies that apply to all classes at USF. These may be accessed at: <https://www.usf.edu/provost/faculty/core-syllabus-policy-statements.aspx>

## **XIII. Covid-19 Procedures**

All students must comply with university policies and posted signs regarding COVID-19 mitigation measures, including wearing face coverings and maintaining social distancing during in-person classes. Failure to do so may result in dismissal from class, referral to the Office of Student Conduct and Ethical Development, and possible removal from campus.

Additional details are available on the University's Core Syllabus Policy Statements page: <https://www.usf.edu/provost/faculty/core-syllabus-policy-statements.aspx>

## **XIV. Course Policies: Grades (as applicable)**

**Late Work Policy:** There are no make-ups for quizzes, discussions, or projects. Late assignments receive a penalty of 15% per day. For example, if the assignment is due on

Sunday, but it is submitted late on Tuesday, there is two-days penalty, i.e., a 30% deduction in the final grade.

**Missed Work Policy:** There are no make-ups for quizzes or projects. If a student misses a quiz or exam without a valid reason (validity to be determined by the instructor), the missed assignment receives a zero score.

**Extra Credit Policy:** There is no opportunity for extra credits.

**Final Exams Policy:** The final exam will replace the lowest midterm exam only for midterms in which the student scored above 20%. Note that students cannot use the final exam to make up for a missed midterm.

## **XV. Course Policies: Technology and Media**

**Email:** The preferred mean of communication between the students and the instructor is the Canvas Inbox message. The instructor checks its inbox once a day during weekdays. Therefore, keep in mind that it may take up to 24hrs to receive a reply.

**Canvas:** This course will be offered via USF's learning management system (LMS), Canvas. If you need help learning how to perform various tasks related to this course or other courses being offered in Canvas, please view the following videos or consult the Canvas help guides. You may also contact USF's IT department at (813) 974-1222 or [help@usf.edu](mailto:help@usf.edu).

**Remote Learning:** Teams lecture streaming and/or video and audio recordings of class lectures may be part of the classroom activity. The video and audio recordings are used for educational use/purposes and only may be made available to all students presently enrolled in the class. For purposes where the recordings will be used in future class sessions/lectures, any type of identifying information will be adequately removed.

## **XVI. Intellectual Freedom and Viewpoint Diversity Act (House Bill 233)**

Students may, without prior notice, record video or audio of a class lecture for a class in which the student is enrolled for their own personal, educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach enrolled students about a particular subject. Recording class activities other than class lectures, including but not limited to lab sessions, student presentations (whether individually or part of a group), class discussion, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, private conversations between students in the class or between a student and the faculty member is prohibited. Recordings may not be used as a substitute for class participation and class attendance and may not be published or shared without the written consent of the faculty member.

Failure to adhere to these requirements may constitute a violation of the [USF Student Conduct Code](#).

#### **XVII. Course Policies: Student Expectations (as applicable)**

**Course Hero Policy:** The [USF Policy on Academic Integrity](#) specifies that students may not use websites that enable cheating, such as by uploading or downloading material for this purpose. This does apply specifically to CourseHero.com – any use of this website (including uploading materials) constitutes a violation of the academic integrity policy.

**End of Semester Student Evaluations:** All classes at USF make use of an online system for students to provide feedback to the University regarding the course. These surveys will be made available at the end of the semester, and the University will notify you by email when the response window opens. Your participation is highly encouraged and valued.

**Turnitin.com:** In this course, turnitin.com will be utilized. Turnitin is an automated system which instructors may use to quickly and easily compare each student's assignment with billions of web sites, as well as an enormous database of student papers that grows with each submission. Accordingly, you will be expected to submit all assignments in both hard copy and electronic format. After the assignment is processed, as instructor I receive a report from turnitin.com that states if and how another author's work was used in the assignment. For a more detailed look at this process visit <http://www.turnitin.com>.

#### **XVIII. Course Policies: Moving online (if necessary)**

External circumstances may force us to have the course in an online format. If that is the case, video lectures will be posted on canvas, and students will follow the pre-determined order on completing assignments. Namely, Pre-lecture quizzes first, then watch lectures, then complete graded quizzes. Deadlines will become flexible within a week. Exams should be answered only during a pre-determined one hour and 30 minutes time interval. The exams will be open-book but still individual. Students found communicating with other students and/or websites that enable cheating, such as course hero, will receive a zero and will be penalized according to the academic integrity policy.

#### **XIX. Important Dates to Remember**

Add a short statement that describes that all the dates and assignments are tentative, and can be changed at the discretion of the professor. Be sure to get the newest dates from the Registrar: <https://www.usf.edu/registrar/calendars/>

Drop/Add Deadline:	Friday, Aug 27th 2021
Midterm 1:	Thursday, Oct 7th 2021
Withdrawal Deadline:	Friday, Oct 29th 2021



Midterm 2:	Thursday, Nov 18th 2021
Fall Break:	Monday, Nov 22nd – Sunday, Nov 28th 2021
Final Examination:	Tuesday, Dec 7 <sup>th</sup> from 10 am to 12 pm