SYLLABUS (This Version: June 12, 2018)
Kenneth C. Griffin Department of Economics
The University of Chicago

ECON 20200: THE ELEMENTS OF ECONOMICS ANALYSIS-III, SUMMER 2018

Instructor: Kanit (Ken) Kuevibulvanich **Email:** kanit@uchicago.edu
Office Location: SHFE 012 **Tel:** (773)-834-3056
Office Hours: Mondays and Wednesdays, 11:00am-1:00pm, catch me after each lecture, or by appointment (Feel free to drop in if my office door is open and I'm not engaged with something else)

Lecture Time and Venue: Mondays and Wednesdays, 1:30-4:30pm, in **SHFE 014 (Conference Room in the Undergraduate Office, Access via SHFE 106)**

Course Objective: This is the third and final course of the economics core sequence. The goal is to familiarize students to the methods employed in modern macroeconomic analysis. Topics include macroeconomic data, neoclassical growth models, general equilibrium models, consumption-saving models, real business cycles, financial economics and asset pricing, overlapping generations models, and the introduction of money. This course serves as a primer to the rigorous macroeconomic analysis of fiscal and monetary policies at the level of ECON 23950 Economic Policy Analysis. Accordingly, students will be exposed to both theoretical and numerical methods.

Prerequisites: ECON 20100/10. Strong foundations in calculus, optimization, ECON 20000/10 and ECON 20100/10 are cruicial for your success. Though not required, introductory macroeconomics at the level of ECON 19900 and a course in statistics and probability are also useful.

Textbooks, Reading Materials, and Computer Software:

- Matthias Doepke, Andreas Lehnert, & Andrew W. Sellgren, *Macroeconomics* [DLS, hereafter]
- Peter Bondarenko, *Econ 20200: Elements of Economic Analysis-3 Lecture Notes* [LN]
  - Also updated as Kotaro Yoshida, *Econ 20200: Elements of Economic Analysis-3 Lecture Notes* [YS]
- Robert J. Barro, *Macroeconomics*, 5th ed., MIT Press, 1997 [RB]
- Lars Ljungquist, & Thomas J. Sargent, *Recursive Macroeconomic Theory*, 3rd ed. (1st or 2nd ed. is also fine), MIT Press, 2012 [LS]
- David Romer, *Advanced Macroeconomics*, 4th ed. (2nd or 3rd ed. is also fine), McGraw-Hill [DR]
- Michael Wickens, *Macroeconomic Theory: A Dynamic General Equilibrium Approach*, 2nd ed. (1st ed. is also fine), Princeton [MW]
- Stephen D. Williamson, *Macroeconomics*, 6th ed. (5th ed. is also fine), Pearson [SW]

DLS manuscript and LN are posted on Canvas. Additional reading materials and journal articles will also be posted on Canvas. No single textbook is sufficient to cover all the materials that would be covered in this class. You are **not** required to buy any of the textbooks, they are held in Library Reserves. I will refer to the textbook chapters and reading materials corresponding to each topic. You can also access the journal articles referred in class using university network. I will also post the handwritten notes as presented after each lecture on Canvas.

There will be assignments that require you to use MATLAB. Please install MATLAB on your computer – available to students free-of-charge at https://www.mathworks.com/academia/tah-portal/university-of-chicago-719588.html. You will also need to install Dynare module in MATLAB, which is available free-of-charge at http://www.dynare.org. Please refer to the website on how to install and *set the directory path* so that Dynare is working with MATLAB on your computer. It is possible to use Excel (available to you for free via Office 365) for only a few problem set questions at the beginning.

Evaluation:

- **Class Attendance and Participation** 5%
- **Assignments**
  - **Problem Sets** – **Due in class or as legible scanned/PDF copy as noted on each problem set** 19%
    - There will be 4-5 equally-weighed problem sets throughout the quarter. All problem sets issued, including zero from no-submission, will be included in the grade calculation.
    - You are encouraged to work and discuss on problem sets in group. You may submit your work in group of no more than four people. *Warning: free-riding will be punished during the exams.*
    - Answers can be hand-written or typed, but computer-generated output must be printed.
    - Problem sets are due before the start of the lecture. Late problem sets will not be accepted except with valid excuse, e.g. illness, university-sanctioned events.
  - **Dynare Simulation Project** – **Due in class as noted on the project sheet** 6%
    - This problem set will ask you to program a Dynare simulation and data calibration from scratch. You may work in group of no more than four people.
    - This project will serve as a foundation to ECON 23950 – Economic Policy Analysis course.
    - Print and hand in your analysis, printouts and codes. Do not attempt to submit the Dynare code from another group – bugs and patterns are easily recognized.
- **Exams**
  - **Midterm Exam** – (80 minutes, 80 points) 28%
    To be scheduled during the week of July 2-6
  - **Final Exam** – Mastery of midterm materials is assumed (120 minutes, 120 points) 42%
    To be scheduled during July 19-20
    - Both exams are closed-book and closed-notes. No calculators, communication or smart personal devices are allowed.
    - Due to administrative purposes, you may not discuss the exam contents before the date and time set under the penalty of academic misconduct.
    - A conflict exam date may be scheduled as circumstance warrants for students who have an exact time conflict. A makeup exam may only be offered to students participating in university-sanctioned events. Students expecting to graduate during the Winter quarter must make the arrangements as soon as possible.
    - Accommodations for students with verified medical conditions will be made according to the University's Student Disability Services procedures. *For privacy purposes, please contact me by email only.*
    - Please let me know of any religious conflict with the scheduled exam dates as soon as possible.

Grading Scheme

- There are no extra credit assignments or bonus points. The total score will be calculated by weighing the raw scores as given above, according to this formula

$$\begin{aligned}\text{Total Score} \quad = \quad & 5 \times \left(\frac{\text{Attendance}}{9}\right) + 19 \times \left(\frac{\text{Your PSETs Score}}{\text{Total PSETs Score}}\right) + 6 \times \left(\frac{\text{Dynare}}{10}\right) \\ & + 28 \times \left(\frac{\text{Midterm}}{80}\right) + 42 \times \left(\frac{\text{Final}}{120}\right)\end{aligned}$$

  The total score is the only metric used in calculating the final grade – there will be no change in the percentage scheme, except for unforeseen circumstances.

- You have until before the start of your final exam to exercise the options to take the course as Pass/Fail qualitative grade, or to Withdraw with W recorded on transcript. Once your final exam has started, this option expires.

- There are no extra credit assignments or bonus points. The total score will be calculated by weighing the raw scores as given above. On average, each lecture will have equal representation in both exams.
- Letter grade curve-criterion will be discussed in class. There is an absolute minimum total score of 50% required to receive a passing letter grade (C-) for this course and proceed as an economics major.
- The instructor reserves the right to assign a discretionary letter grade to anyone who scores below 36 out of 120 points in the final exam or fails to submit the Dynare simulation project.

Housekeeping:

- Attendance
  - Please stop me and ask questions at any time if you cannot catch up with the material presented.
  - Recording, photography and videography devices are allowed in my lectures, strictly for personal use as review material only. For discussion sections, please ask for permission from the TAs.
  - Please be considerate to your classmates by silencing your electronic devices and refraining from using cell phones, texting, reading newspaper or listening to music.
- Problem set and exam regrading policy
  - You have one-week window after the score has been posted to Canvas to request any regrading.
  - You must thoroughly read the solution key posted, and then fill the regrade request form explaining any discrepancies you find.
  - The instructor, TAs, and graders reserve the rights to regrade the entire exam or problem set. Regrading may decrease your grade.
- It is very important that you must contact the instructor whenever any problems which may affect your course performance arise. Do not wait until it is too late to communicate and rectify any issues. Informing the instructor at the last-minute moment will not result in manual adjustment of your letter grade – the letter grade solely reflects your performance as observed from the measurable metrics. This is a marathon, not a sprint!
- Academic integrity and honesty
  - As a University of Chicago student, you have agreed to abide by the University's academic honesty policy. All academic work must meet the standards described in Academic Integrity and Student Conduct found at: http://college.uchicago.edu/policies-regulations/academic-integrity-student-conduct. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.
  - In summary, I have "zero-tolerance" policy regarding academic integrity and dishonesty. Any academic misconduct will be reported and punished to the severest extent.

Topics and Course Outline (Subject to Change due to Time Constraints and Class Progress)

Week	Lecture	Date	Topics Introduced *(Referenced Materials)*
1	1	Mon 6/18	Introduction, Macroeconomic Measurement, Stock-Flow Variables Microeconomics Foundation, Difference Equations, Crusoe's Island Consumption-Labor Model *(LN #1-2; DLS Ch. 2; RB Ch. 2; LN #2-3; Notes)*
	2	Wed 6/20	Economic Growth: Kaldor's Stylized Facts, Solow Growth Model, Dynamic Inefficiency, Model Calibration and Data Matching, Growth Accounting, Augmented Solow Growth Model, Endogenous Growth Model *(DLS Ch. 11; RB Ch. 11; MW Ch. 3; DR Ch. 1, 3; Notes)*
2	3	Mon 6/25	Consumption-Saving Problem: Two-period Model, Consumption-Saving Euler Equation, Credit Market Imperfection *(SW Ch. 9-10; LN# 4-5)*
	4	Wed 6/27	Dynamic General Equilibrium: First Welfare Theorem, Centralized vs. Decentralized Solution, Equilibrium Definition, Market Clearing Condition Infinite-Horizon Models: The Lagrangian Method, State and Control Variables, Phase Diagram, Dynamic Analysis, Total Factor Productivity, Shocks, MATLAB/Dynare Simulations *(MW Ch. 2, 4; DLS Ch. 3, 5-6; LN# 6-7; DR Ch. 2A)*
3	5	Mon 7/2	
	-	TBA	**Midterm Exam** *(80 Minutes, TBA)*
4	6	Mon 7/9	Continuation of the Infinite-Horizon Models – Applications: Elastic Labor Supply, Real Business Cycles, Financial Economics: Uncertainty, Risk Premium, Consumption-CAPM Model, Lucas Tree and Asset Pricing Models *(MW Ch. 2, 4, 11, 16; LS Ch. 8, 13)*
	7	Wed 7/11	
5	8	Mon 7/16	Introduction to the Overlapping Generations Models – Autarky Equilibrium, Social Security, Fiat Money *(DR Ch. 2B; MW Ch. 6.3; LS Ch. 9)*
	9	Wed 7/18	Introduction to Money: Baumol-Tobin Model of Money Demand, Cash-in-Advance Model, Friedman Rule *(DLS Ch. 4, 8; RB Ch. 4; SW Ch. 11; MW Ch. 8; LN# 8, 14-15)*
	-	TBA	**Final Exam** *(120 Minutes, TBA)*