MACROECONOMIC THEORY   **T. J. KEHOE**
ECON 8105   **FALL 2021**
SYLLABUS

Readings:

The reference books for this course are

L. Ljungqvist and T. J. Sargent, *Recursive Macroeconomic Theory*. Third edition. The MIT Press, 2012.

N. L. Stokey and R. E. Lucas with E. C. Prescott, *Recursive Methods in Economic Dynamics*. Harvard University Press, 1989.

Both are important references and are probably worth buying now for future use. Do not worry if they seem very difficult to you at this stage. Copies of some of the other readings will be available on the course web site: http://www.econ.umn.edu/~tkehoe/classesNew/8105-19.html.

Office Hours:

Wednesdays, 9:00–10:00 am on Zoom. You will receive a link to a sign-up spreadsheet via Google Sheets. Some weeks, office hours will be on a different day than Wednesday. Check on the sign-up spreadsheet. If you need to meet at some other time, please do not call me at home; send me an e-mail message at tkehoe@umn.edu.

Assignments:

There will be five problem sets, a midterm, and a final. In addition to analytical work, some problem sets will require you to write a computer program in Matlab, Fortran, C++, Gauss, Julia, Python, or some such language. All assignments must be completed in order to receive a final grade for the course.

Teaching Assistant:

The teaching assistant is Alexander Wurdinger. His e-mail address is wurdi004@umn.edu, his phone number is 612-625-9248, and his office is Herbert Hanson Hall 3-125. Alex has tentatively scheduled his office hours for Friday afternoons 3:30–5:30 pm.

Grading:

Each problem set mark will be counted once and the final will be counted twice. The lowest of these marks will be dropped and the remaining marks averaged. Notice that this means that, if the lowest mark is that of the final, its weight will be halved, but it will not be completely dropped. The midterm will be counted only if doing so improves the overall grade.

Late Policy:

Any late assignment will be penalized 10 (out of 100) points for each class period it is late, up to a maximum of 40 points.

Cooperation on Assignments:

Students are permitted (and encouraged) to discuss the answers to problem sets together. Copying from another student's answers is not allowed.

List of Topics:

1. Introduction to Dynamic General Equilibrium

T. J. Kehoe, "Intertemporal General Equilibrium Models," in F. H. Hahn, editor, *The Economics of Missing Markets, Information, and Games*. Claredon Press, 1989, 363–393.

Stokey-Lucas-Prescott, Chapters 2, 3, 4.

2. Overlapping Generations Economies

P. A. Diamond, "National Debt in a Neo-Classical Growth Model," *American Economic Review*, 55 (1965), 1126–1150.

T. J. Kehoe, "Intertemporal General Equilibrium Models," in F. H. Hahn, editor, *The Economics of Missing Markets, Information, and Games*. Claredon Press, 1989, 363–393.

T. J. Kehoe and D. K. Levine, "Comparative Statics and Perfect Foresight in Infinite Horizon Economies," *Econometrica*, 53 (1985), 433–453.

T. J. Kehoe and D. K. Levine, "The Economics of Indeterminacy in Overlapping Generations Models," *Journal of Public Economics*, 42 (1990), 219–243.

D. Gale, "Pure Exchange Equilibrium of Dynamic Economic Models," *Journal of Economic Theory*, 6 (1973), 12–36.

G. D. Hansen, "The Cyclical and Secular Behaviour of the Labour Input: Comparing Efficiency Units and Hours Worked," *Journal of Applied Econometrics*, 8 (1993), 71–80.

Ljungqvist-Sargent, Chapter 9.

P. A. Samuelson, "An Exact Consumption Loan Model of Interest, With or Without the Social Contrivance of Money," *Journal of Political Economy*, 66 (1958), 467–482.

Stokey-Lucas-Prescott, Chapter 17.

N. Wallace, "The Overlapping Generations Model of Fiat Money," in J. H. Kareken and N. Wallace, editors, *Models of Monetary Economies*, Federal Reserve Bank of Minneapolis, 1980.

3. The Neoclassical Growth Model

N. Kaldor, "Capital Accumulation and Economic Growth," in F. A. Lutz and D. C. Hague, editors, *The Theory of Capital*, St. Martin's Press, 1961, 177–222.

T. J. Kehoe, "Calibrating the Growth Model."

T. J. Kehoe and Kim J. Ruhl, "Why Have Economic Reforms in Mexico Not Generated Growth?" *Journal of Economic Literature*, 48 (2010), 1005–1027.

R. E. Lucas, "On the Mechanics of Economic Development," *Journal of Monetary Economics*, 22 (1988), 3–42.

R. M Solow, *Growth Theory: An Exposition*. Oxford: Clarendon Press, 1970.

4. Dynamic Programming

Ljungqvist-Sargent, Chapters 1, 3, 4.

Stokey, Lucas, Prescott, Chapters 5, 6, 8, 9.

5. Search, Matching, and Unemployment

Ljungqvist-Sargent, Chapter 6.

Stokey-Lucas-Prescott, Chapter 10.

D. T. Mortensen and C. A. Pissarides "Job Creation and Job Destruction in the Theory of Unemployment," *Review of Economic Studies*, 61 (1994), 397–415.

6. Crises and Great Depressions

R. Bergoeing, P. J. Kehoe, T. J. Kehoe, and R. Soto, "A Decade Lost and Found: Mexico and Chile in the 1980s," in T. J. Kehoe and E. C. Prescott, editors, *Great Depressions of the Twentieth Century*, Federal Reserve Bank of Minneapolis, 2007, 217–256.

H. L. Cole and L. E. Ohanian, "A Second Look at the Great Depression in the United States From A Neoclassical Perspective," in T. J. Kehoe and E. C. Prescott, editors, *Great Depressions of the Twentieth Century*, Federal Reserve Bank of Minneapolis, 2007, 21–58.

J. C. Conesa, T. J. Kehoe, and K. J. Ruhl, "Modeling Great Depressions: The Depression in Finland in the 1990s," in T. J. Kehoe and E. C. Prescott, editors, *Great Depressions of the Twentieth Century*. Federal Reserve Bank of Minneapolis, 2007, 427–475.

T. J. Kehoe and E. C. Prescott, "Great Depressions of the Twentieth Century," in T. J. Kehoe and E. C. Prescott, editors, *Great Depressions of the Twentieth Century*, Federal Reserve Bank of Minneapolis, 2007, 1–20.

T. J. Kehoe and K. J. Ruhl, "Sudden Stops, Sectoral Reallocations, and the Real Exchange Rate," *Journal of Development Economics*, 89 (2009), 235–249.

T. J. Kehoe, K. J. Ruhl, and Joseph B. Steinberg, "Global Imbalances and Structural Change in the United States," *Journal of Political Economy*, 126 (2018), 761–796.

Please note: We will cover topics 1-4 for sure. We will not have time to do both topic 5 and topic 6, but I hope to have time to do one of these topics.

UNIVERSITY OF MINNESOTA POLICY ON THE COVID-19 VACCINE AND FACE COVERINGS:
The University of Minnesota is adding the COVID-19 vaccine to the list of vaccines required for all enrolled University of Minnesota students. **All students systemwide will receive an email with instructions on how to confirm your vaccination status**. Please watch for the email and then quickly complete the form.
Faculty and staff will receive an email with instructions to confirm their vaccination status.

COVID-19, FACE-COVERINGS, SYMPTOMS, AND VACCINATION:

The University of Minnesota currently requires all students, staff, and faculty to wear masks when indoors regardless of vaccination status. This includes classrooms, atriums, offices, and all University indoor spaces. Instructors have the option of wearing a mask or a face-shield while teaching.

Please stay at home if you experience symptoms of COVID-19 and consult with your healthcare provider about an appropriate course of action. An absence due to symptoms of COVID-19 is an excused absence, and instructors will work with you to find the best course of action for missed work and/or class experiences.

CLASS ASSIGNMENTS:
Written answers to homework assignments must be typed; Graphs and numerical work need not be typed, but should be legible.

STUDENTS WITH DISABILITIES:
Reasonable accommodations will be provided for all students with documented disabilities (by the DRC). Contact the instructor at the beginning of the semester to work out details. This information will be kept confidential.

STUDENT MENTAL HEALTH AND STUDENT COUNSELING SERVICES:
As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. University of Minnesota services are available to assist you with addressing these and other concerns. Information about confidential mental health services is available at: https://boynton.umn.edu/clinics/mental-health. Student Counseling Services website: https://counseling.umn.edu/

SEXUAL MISCONDUCT

Sexual misconduct (sexual harassment, sexual assault, stalking, and relationship violence) includes unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such behavior is prohibited in the University setting.

Per the U of M policy on sexual harassment, *I am required to share information that I learn about possible sexual misconduct* with the campus Title IX office. Within the requirements of my job, I will be as responsive as possible to your requests for confidentiality and support. You can also, or alternately, choose to talk with a confidential resource that will not share information that they learn about sexual misconduct. Confidential resources include The Aurora Center, Boynton Mental Health, and Student Counseling Services.

DROPPING A CLASS:
Termination of attendance alone is not sufficient to drop a class. You must notify the Registrar's office. Please contact your academic (college) adviser for details on this process and pay attention to University deadlines for add/drop.

INCOMPLETE GRADE:
Low class standing is not a valid reason for an Incomplete grade. An I is given only in exceptional circumstances like family emergencies or hospitalization; arrangements must be worked out between the student and instructor before the final exam. We require written proof of emergencies. Details about I grades and how to make it up are to be decided by the Instructor and student; you need to fill out the form.

SCHOLASTIC DISHONESTY:

"The College of Liberal Arts defines scholastic dishonesty broadly as any act by a student that misrepresents the student's own academic work or that compromises the academic work of another. Examples include cheating on assignments or exams, plagiarizing (misrepresenting as one's own anything done by another), unauthorized collaboration on assignments or exams, or sabotaging another student's work."

The University Student Conduct Code defines scholastic dishonesty as "Submission of false records of academic achievement; cheating on assignments or examinations; plagiarizing; altering, forging, or misusing a University academic record; taking, acquiring, or using text materials without faculty permission; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement." Penalties for scholastic dishonesty of any kind in any course will entail an "F" for the particular assignment/exam or the course. Website for information on Student Academic Misconduct: https://communitystandards.umn.edu/avoid-violations/avoiding-scholastic-dishonesty

STUDENT CONDUCT AND CLASSROOM BEHAVIOR:
Students are expected to contribute to a calm, productive, and learning environment. Check the Student Conduct Code: https://regents.umn.edu/sites/regents.umn.edu/files/2019-09/policy_student_conduct_code.pdf to find out what is expected of you.