

Econ 9454
Advanced Macroeconomic Theory I
FALL 2021

Instructor: Prof. Aaron Hedlund (hedlunda@missouri.edu – include “9453” in subject)

Time and Location: T, R 11:00am – 12:15pm, Hill Hall 201

Office Hours: By Appointment, 226 Professional Building

Canvas: <https://umsystem.instructure.com>

Dropbox Link: https://www.dropbox.com/sh/k2bth5qy2i9ux7e/AAD0NPMYq0_HGmXtcHBwvy3Wa?dl=0

Final Exam: Take-Home

Course Description

This course is an introduction to PhD-level modern macroeconomics. The main emphasis of the course will be on providing a solid foundation in macroeconomic theory, but the development of analytical and computational tools will also play an important role.

Resources

The main reference books are *Recursive Methods in Economic Dynamics* (Stokey and Lucas) and *Recursive Macroeconomic Theory* (Ljungqvist and Sargent). For those of you who are interested in pursuing macroeconomics as one of your research specialties, I suggest gradually adding the following books to your library as well:

- *Dynamic General Equilibrium Modeling* (Heer and Maussner)
- *Dynamic Economics* (Adda and Cooper)
- *Frontiers of Business Cycle Research* (Cooley)
- *The ABCs of RBCs* (McCandless)
- *Methods for Applied Macroeconomic Research* (Canova)
- *Structural Macroeconometrics* (Dejong and Dave)
- *Numerical Methods in Economics* (Judd)
- *Applied Computational Economics and Finance* (Miranda and Fackler)
- *Computational Methods for the Study of Dynamic Economies* (Marimon and Scott)

Assessment

Your grade for my section of this course will be based 35% on assignments and 65% on the final exam. The assignments will involve a combination of analytical problems and computational work. For the computation, I suggest familiarizing yourself with Matlab.

Course Outline

1. Dynamic Programming

- (a) Deterministic Dynamic Programming
- (b) Stochastic Dynamic Programming
- (c) Asset Pricing

2. Heterogeneous Agent Models with Incomplete Markets

- (a) Partial Equilibrium Models: Infinite Horizon and Life Cycle
- (b) General Equilibrium Models: Steady State
- (c) General Equilibrium Models: Transition Dynamics
- (d) General Equilibrium Models: Aggregate Risk
- (e) Models with Financial Frictions and Equilibrium Default

MU Policies

Information on MU policies related to COVID-19 mitigation; academic integrity; academic inquiry, course discussion, and privacy; FERPA; intellectual pluralism; netiquette; religious holidays and accommodations; nondiscrimination; and students with disabilities is here: <https://provost.missouri.edu/faculty-affairs/syllabus-information>