

Computational Economics
ECON 695F
Concordia University
Winter 2026

Instructor: Etienne Briand

Class Time and Place: Tuesdays and Thursdays 2:45pm-4:00pm (H.1145)

Office Hours: Thursdays 2:00pm-2:45pm or by appointment

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Overview

This graduate-level economics course covers numerical methods for solving the dynamics of macroeconomic models. The first part introduces various methods, with an emphasis on dynamic programming and linearization. The second part applies these methods to heterogeneous-agent and New Keynesian models.

Software Requirements

Students must download Julia, Python and Anaconda on their computers. All are free to use. Alternatively, these softwares are available in the computer lab (H.1155.16).

Grading

- Homework: 30%
- Midterm Exam: 30% (TBA)
- Final Exam: 40% (TBA)

All homework must be written in .ipynb notebooks and submitted by email before the deadline. Exams are closed-book and closed-notes. Absences require formal documentation.

Grading scale: $A^+ : [90, 100]$, $A : [85, 89]$, $A^- : [80, 84]$, $B^+ : [75, 79]$, $B : [69, 74]$,
 $B^- : [60, 68]$, $C : [50, 59]$, $FNS : [0, 49]$.

References

The primary materials are slides and notebooks provided by the instructor.

Some other useful references include:

- Stokey, Lucas, Prescott (1989) *Recursive Methods in Economic Dynamics*.
- Jordi Galí(2008) *Monetary Policy, Inflation, and the Business Cycle*.
- Ljungqvist and Sargent (2012) *Recursive Macroeconomic Theory*.
- DeJong and Dave (2012) *Structural Macroeconometrics*.
- Herbst and Schorfheide (2015) *Bayesian Estimation of DSGE Models*.
- Sargent and Stachurski (2025) *Dynamic Programming*.