

# ECO511: Macroeconomics 1

Université Mohammed VI Polytechnique

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## Professor

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## Electronic copy

An electronic copy of this course outline is available in the Files subdirectory for the course on CANVAS (eco511\_2025.pdf). A copy is also available at

[https://www.steveambler.uqam.ca/511/eco511\\_2025.pdf](https://www.steveambler.uqam.ca/511/eco511_2025.pdf)

## Course Description

The overall objective is to present an introduction (at an advanced level) to dynamic macroeconomic theory. We will study several models and theories, including: the basic neoclassical growth model with infinite horizons; overlapping generations models; the basic Real Business Cycle model; the basic New Keynesian model; the welfare cost of fluctuations; optimal stabilization policy; and endogenous growth theory.

By the end of the course students will be familiar with the basic models in dynamic macroeconomics. They will be able to understand, analyze, and solve them, and use them for policy analysis.

## Evaluation

Project:	25%
In-class participation	15%
Mid-term exam:	30%
Final exam:	30%

The exact dates of the exams and the deadline for submitting the project will be determined by the beginning of the semester.

## Course calendar

I will be in Rabat during two two-week periods (dates still to be confirmed). There will likely be four lectures and two labs scheduled during each of these two-week periods. The rest of the course will be taught online. The full calendar is available and will be updated on CANVAS.

## Documents

There is no compulsory textbook. The course will be based on journal articles and lecture notes. However, quite a bit of the material will come from Romer (2018) — see the references at the end of this syllabus. A copy of this book is available in your university library.

I prepared detailed lecture notes when I taught the course in 2023 and 2024. I will be updating them over the course of the semester. They are available online on my UQÀM website in the following directory: <https://steveambler.uqam.ca/511/>, and on CANVAS. I have also uploaded some old lecture notes (in French) from an Masters course at to the following subdirectory on my UQAM website (see also below for clickable links): <https://stevambler.uqam.ca/511/oldnotes/>.

## Course outline

Compulsory readings are indicated with an asterisk. The other references are included for students who wish to deepen their knowledge of particular topics.

## **0. Introduction**

References: Lecture notes (introducs.pdf)\*

## **1. General introduction, stylized facts of the business cycle and the evaluation of macroeconomic models**

References: Lecture notes (introducs.pdf)\*; Romer (2018, chapter 5, section 1); Ambler (2023d); Backus, Kehoe and Kydland (1992); Gamber and Joutz (1997)

## **2. Growth models 1: Basic Solow model**

References: Lecture notes (solows.pdf)\*; Romer (2018, chapter 1); Farmer (1999, chapters 5, 9)

## **3. Growth models 2: Optimal growth with infinite horizons — Ramsey-Cass-Koopmans model**

References: Lecture notes (croissans.pdf)\*; Romer (2018, chapter 2 Part A); Farmer (1999, chapter 5)

## **4. Growth models 3: overlapping generations — Diamond model**

References: Lecture notes (croissans.pdf)\*; Romer (2018, chapter 2 Part B); Farmer (1999, chapter 9); Auerbach and Kotlikoff (1987)

## **5. Basic Real Business Cycle model and solution under rational expectations**

References: Lecture notes (cycleres.pdf)\*; Notes on the Sims model (simsmodel.pdf)\*; Sims (2017); Sims (2017b); Romer (2018, chapter 5); Ambler (2023d); Ambler (2023e); Ambler (2023f); Blanchard and Kahn (1980); King, Plosser and Rebelo (1988a); King, Plosser and Rebelo (1988b); King and Rebelo (2000); King and Watson (1998)

## **6. Microfoundations of nominal rigidities**

References: Lecture notes (prixfixes.pdf)\*; Romer (2018, chapter 6); Ambler (2023g); Ambler (2010)

## **7. The New Keynesian model: basic model and real rigidities**

References: Lecture notes (newkeyness.pdf)\*; Blanchard and Galí (2007); Romer (2018, chapter 7); Ambler (2023h); Galí (2015); Galí and Gertler (2007); Dotsey, King and Wolman (1999); Kiley (2002); King and Kurmann (2003); Mankiw (1990); Chari, Kehoe and McGrattan (2000); Dotsey and King (2001); Danthine and Kurmann (2004); Romer (1993)

## **8. The welfare cost of fluctuations**

References: Lecture notes (welfarecosts.pdf)\*; Galí, Gertler, and López-Salido (2007)\*; Huggett (1997); Krusell and Smith (1999); Lucas (1987); Lucas (2003)

## **9. Stabilization policy and monetary policy**

References: Lecture notes (monetary.pdf)\*; Sørensen and Whitta-Jacobsen (2022, chapters 20, 21); Romer (2018, chapter 12); Clarida, Gali and Gertler (1999); Benhabib, Schmitt-Grohé and Uribe (2001); Aoki (2001); Erceg, Henderson and Levin (2000); Goodfriend and King (1998); King (2000); King and Wolman (2003); Cochrane (2023)

## **10. Endogenous growth: basic models**

References: Lecture notes (endgrowth.pdf)\*; Romer (1994)\*; Aghion and Howitt (2008, chapters 2, 5)\*; Sala-i-Martin (2002); Romer (2018, chapter 3); Barro and Sala-i-Martin (1995, section 1.3, chapters 4, 6, 7); Ljungqvist and Sargent (2000, chapter 11)

## **11. Endogenous growth 2: Schumpeterian growth**

References: see previous section

## References

See also

<http://stevambler.uqam.ca/511/references.pdf>

### Books and online lecture notes

Aghion, Philippe et Peter Howitt (1998), *Endogenous Growth Theory*. Cambridge MA, MIT Press

Alogoskoufis, George (2019), *Dynamic Macroeconomics*. Cambridge MA, MIT Press

Auerbach, Alan and Laurence Kotlikoff (1987), *Dynamic Fiscal Policy*. Cambridge, Cambridge University Press

Barro, Robert et Xavier Sala-i-Martin (1995), *Economic Growth*. New York NY, McGraw Hill

Campbell, John, Andrew Lo et A. C. MacKinlay (1997), *The Econometrics of Financial Markets*. Princeton NJ, Princeton University Press

Cochrane, John (2023), *The Fiscal Theory of the Price Level*. Princeton NJ, Princeton University Press

Farmer, Roger (1999), *Macroeconomics of Self-Fulfilling Prophecies*. 2<sup>e</sup> édition, Cambridge MA, MIT Press

Galí, Jordi (2015), *Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework and Its Applications*. 2<sup>e</sup> édition, Princeton NJ, Princeton University Press

Greenwood, Jeremy (2002), *Lecture Notes on Dynamic Competitive Analysis*. University of Rochester

<https://www.coursehero.com/file/75393946/lecture-notes-Greenwoodpdf>

Heijdra, B. J. (2017), *Foundations of Modern Macroeconomics*. 3<sup>e</sup> édition, Oxford, Oxford University Press

Krueger, Dirk (2012), *Macroeconomic Theory* University of Pennsylvania

<https://users.ssc.wisc.edu/~aseshadr/econ714/MacroTheory.pdf>

Ljungqvist, Lars and Thomas Sargent (2000), *Recursive Macroeconomic Theory*. Cambridge MA, MIT Press

Lucas, Robert E. (1987), *Models of Business Cycles*. Oxford, Basil Blackwell

Romer, David (1997), *Macroéconomie approfondie*. Paris, McGraw Hill-Édisience

Romer, David (2018), *Advanced Macroeconomics*. fifth edition, New York NY, McGraw Hill

Uribe, Martín and Stephanie Schmitt-Grohé (2017), *Open Economy Macroeconomics*. Princeton NJ, Princeton University Press

Woodford, Michael (2003), *Interest and Prices*. Princeton, Princeton University Press

## Lecture notes

My old lecture notes are in French. I will be continuing to update my slides in English over the course of the term. They are posted on my personal website at UQAM and on CANVAS.

Ambler, Steve (2024), “Introduction général au cours.” UQAM

<https://stevambler.uqam.ca/511/oldnotes/introduc.pdf>

Ambler, Steve (2024b), “Le modèle de croissance de Solow.” UQAM

<https://steveambler.uqam.ca/511/oldnotes/croissas.pdf>

Ambler, Steve (2024c), “Croissance optimale.” UQAM

<https://steveambler.uqam.ca/511/oldnotes/croissan.pdf>

Ambler, Steve (2024d), “Notes sur les modèles de cycles réels et leurs successeurs.” UQAM

<https://steveambler.uqam.ca/511/oldnotes/cycleree.pdf>

Ambler, Steve (2024e), “Les modèles du cycle réel.” UQAM

<https://steveambler.uqam.ca/511/oldnotes/cyclere2.pdf>

Ambler, Steve (2024f), “Notes on the Forward-Backward Simulation Method.” UQAM

<https://steveambler.uqam.ca/511/oldnotes/forbackd.pdf>

Ambler, Steve (2024g), “Notes sur les microfondements des rigidités nominales.” UQAM

scriptsize <https://steveambler.uqam.ca/511/oldnotes/prixfixe.pdf>

Ambler, Steve (2024h), “Le modèle néo-keynésien de base.” UQAM

<https://steveambler.uqam.ca/511/oldnotes/newkeynes.pdf>

Ambler, Steve (2024i), “Consommation.” UQAM

<https://steveambler.uqam.ca/511/oldnotes/consomma.pdf>

Ambler, Steve (2024j), “Notes sur la consommation.” (avec André Kurmann) UQAM

<https://steveambler.uqam.ca/511/oldnotes/consomma2.pdf>

Ambler, Steve (2024k), “Notes sur l’investissement.” UQAM

<https://steveambler.uqam.ca/511/oldnotes/investis.pdf>

- Ambler, Steve (2025l), “General Introduction.” Mohammed VI Polytechnic  
<https://stevambler.uqam.ca/511/introducs.pdf>
- Ambler, Steve (2025m), “Solow Growth Model and Overlapping Generations.” Mohammed VI Polytechnic  
<https://stevambler.uqam.ca/511/solows.pdf>
- Ambler, Steve (2025n), “Optimal Growth Models.” Mohammed VI Polytechnic  
<https://stevambler.uqam.ca/511/croissans.pdf>
- Ambler, Steve (2025n1), “Notes on the Sims Model.” Mohammed VI Polytechnic  
<http://stevambler.uqam.ca/511/simsmodel.pdf>
- Ambler, Steve (2025o), “Microfoundations of Nominal Rigidities.” Mohammed VI Polytechnic  
<https://stevambler.uqam.ca/511/prixfixes.pdf>
- Ambler, Steve (2025p), “The New Keynesian Model.” Mohammed VI Polytechnic  
<https://steveambler.uqam.ca/511/newkeyness.pdf>
- Ambler, Steve (2025q), “The Welfare Costs of Fluctuations.” Mohammed VI Polytechnic  
<https://steveambler.uqam.ca/511/welfarecosts.pdf>
- Ambler, Steve (2025r), “Monetary and Fiscal Policy.” Mohammed VI Polytechnic  
<https://steveambler.uqam.ca/511/monetary.pdf>
- Ambler, Steve (2025s), “Endogenous Growth Models.” Mohammed VI Polytechnic  
<https://steveambler.uqam.ca/511/endgrowth.pdf>

## Articles and book chapters

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- Aghion, Philippe and Peter Howitt (2006), “Appropriate Growth Policy: A Unifying Framework.” *Journal of the European Economic Association* 4, 269–314
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<http://www.steveambler.uqam.ca/papers/fixwage.2010.pdf>
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- Ball, Laurence and David Romer (1990), "Real Rigidities and the Non-Neutrality of Money." *Review of Economic Studies*, 57, 183–203
- Baumol, William (1986), "Productivity Growth, Convergence, and Welfare." *American Economic Review* 76, 1072–1085
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- Bernanke, Benjamin, Mark Gertler, and Stephen Gilchrist (1998). "The Financial Accelerator in a Quantitative Business Cycle Framework." *Handbook of Macroeconomics*, Amsterdam, North Holland (also NBER working paper 6455)
- Blanchard, Olivier and Jordi Galí (2007), "Real Wage Rigidities and the New Keynesian Model." *Journal of Money, Credit and Banking* 39, 35–64
- Blanchard, Olivier and Charles Kahn (1980), "The Solution of Linear Difference Models under Rational Expectations." *Econometrica* 48, 1305–1311
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<https://www.bcb.gov.br/pec/wps/ingl/wps284.pdf>
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[https://sites.nd.edu/esims/files/2023/05/stylized\\_facts\\_rbc\\_sp17.pdf](https://sites.nd.edu/esims/files/2023/05/stylized_facts_rbc_sp17.pdf)
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- Sørensen, Peter and Hans Jørgen Whitta-Jacobsen (2022), *Introducing Advanced Macroeconomics: Growth and Business Cycles*. third edition, Oxford, Oxford University Press
- Uhlig, Harald (1998), “A Toolkit for Analysing Nonlinear Dynamic Stochastic Models Easily.” in Ramon Marimon and Andrew Scott, (eds.), *Computational Methods for the Study of Dynamic Economies*. Oxford, Oxford University Press (and QM&RBC codes 123, Quantitative Macroeconomics & Real Business Cycles)  
<https://dqe.repec.org/codes/marimon-scott/Uhlig/>

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