

**Macroeconomía Avanzada / Advanced Macroeconomics****Prof. Stephen McKnight****E-mail: [mcknight@colmex.mx](mailto:mcknight@colmex.mx) / Office: 4475**

---

**Course Description**

- There are 2 x 1.5 hour classes scheduled for 16 weeks: Thursday 10:30 – 12:00 (Room 2245) and 16.00 – 17.30 (Room 2265).
- The laboratorios will be given by Humberto Martínez García ([hmartinez@colmex.mx](mailto:hmartinez@colmex.mx)) on Thursday: 18:00 – 19:30 (Room 2269).
- This course aims to provide students with an advanced knowledge of modern macroeconomics. The course will cover the most important macroeconomic models in the key areas of economic growth, business cycle theory, monetary and fiscal policy, and open economy macroeconomics. The course will develop step-by-step the analytical, methodological, and basic computational skills (using DYNARE) needed to understand dynamic macroeconomic models. In addition, emphasis will also be given on understanding contemporary macroeconomic policy issues.
- The course is divided into the following 3 sections:
  1. Theories of Economic Growth.
  2. Business Cycle Theories and Macroeconomic Policy.
  3. Open Economy Macroeconomics.
- Lecture notes will be distributed via email before each class.

**Course Evaluation**

- Students will be expected to complete occasional problem sets as homework. The answers to these problem sets will be given in the laboratorio.
- There will be two (in-class) examinations. A mid-term exam and a final-term exam.
- The evaluation of the course will be based on both examinations.
  - Mid-Term Exam 35%
  - Final-Term Exam 65%
- The Mid-Term Exam will take place on Thursday 27<sup>th</sup> September (week 8) between 10:30 – 12:30.

## Textbooks

The main textbook for this course is:

- Romer (2012), *Advanced Macroeconomics*, 4<sup>th</sup> Edition, McGraw Hill.

In addition to Romer (2012), students may also find the following textbooks useful for the topics on Economic Growth:

- Barro and Sala-i-Martin (2004), *Economic Growth*, 2<sup>nd</sup> Edition, MIT Press.
- Jones and Vollrath (2013), *Introduction to Economic Growth*, 2<sup>nd</sup> Edition, Norton.

In addition to Romer (2012), students may also find the following textbooks useful for the topics on Business Cycle Theory and Macroeconomic Policy:

- Gali (2015), *Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework and its Applications*, 2<sup>nd</sup> Edition, Princeton University Press.
- McCandless (2008), *The ABC's of RBC's*, Harvard University Press
- Walsh (2010), *Monetary Theory and Policy*, 3<sup>rd</sup> Edition, MIT Press.

For the Open-Economy Macroeconomics section of the course we will use a combination of the following textbooks:

- Obstfeld and Rogoff (1996), *Foundations of International Economics*, MIT Press.
- Végh (2013), *Open Economy Macroeconomics in Developing Countries*, MIT Press.

## Course Outline [*(\*) denotes compulsory reading*]

### *Section 1 – Theories of Economic Growth*

#### **Topic 1: The Solow Growth Model**

1. The Neoclassical Production Function
2. The Solow Growth Model
3. Existence and Stability of the Steady State
4. Comparative Statics and Properties of the Solow Model
5. Empirical Application: Growth Accounting
6. The Solow Model with Human Capital
7. The Solow Model and the Central Questions of Growth Theory

### **Reading List:**

- (\*) Romer (2012), Chapters 1 and 4.
- (\*) Barro and Sala-i-Martin (2004), Chapters 1 and 10.1.
- (\*) Jones and Vollrath (2013), Chapters 2 and 3.
- Mankiw, Romer and Weil (1992), “A Contribution to the Empirics of Economic Growth.” *Quarterly Journal of Economics* 107: 407 – 438.
- Hall and Jones (1999), “Why do Some Countries Produce so Much More Output per Worker than Others?” *Quarterly Journal of Economics* 114: 83 – 116.

### **Topic 2: The Ramsey Growth Model**

1. An Introduction to Dynamic Optimization
2. The Ramsey Growth Model
3. Solving the Ramsey Model using Phase Diagrams
4. The Ramsey Model vs. The Solow Model
5. Policy Experiments
6. Adding Government

### **Reading List:**

- (a) (\*) Romer (2012), Chapter 2: Part A.
- (b) (\*) Barro and Sala-i-Martin (2004), Chapter 2.

### **Topic 3: Overlapping Generation (OLG) Models**

1. The Diamond Overlapping Generations (OLG) Model
2. Policy Experiments
3. Capital Over-Accumulation and Dynamic Inefficiency
4. The Macroeconomics of Pensions

### **Reading List:**

- (a) (\*) Romer (2012), Chapter 2: Part B.

### **Topic 4: Endogenous Growth Theory**

1. R&D and Economic Growth
2. A R&D Model without Capital
3. A R&D Model with Capital
4. Learning-By-Doing

### **Reading List:**

- (a) (\*) Romer (2012), Chapter 3, Sections 3.1 – 3.4.
- (b) (\*) Jones and Vollrath (2013), Chapter 5.

## **Section 2 – Business Cycle Theory and Macroeconomic Policy**

### **Topic 5: Real Business Cycle Theory**

1. Business Cycle Fluctuations
2. The Real Business Cycle Model
3. Linearization Techniques
4. Inspecting the Mechanism: An Analytical Solution to the RBC Model using the Method of Undetermined Coefficients
5. The RBC Model and DYNARE
6. The Baseline RBC Model of Romer (2012) textbook

### **Reading List:**

- (\*) Romer (2012), Chapter 5.
- (\*) McCandless (2008), Chapter 6.2.
- Campbell (1994), “Inspecting the Mechanism: An Analytical Approach to the Stochastic Growth Model”, *Journal of Monetary Economics*: 33, 463 – 506.
- DYNARE Reference Manual [link](#) and User Guide [link](#)

### **Topic 6: Nominal Rigidity**

1. The Goods and Labor Markets under Nominal Rigidity
2. Empirical Evidence on the Cyclical Behavior of the Real Wage
3. The Natural Rate of Unemployment and the Expectations-Augmented Phillips Curve
4. Imperfect Competition and the Aggregate Demand Externality
5. Nominal vs. Real Rigidities
6. The Lucas Imperfect-Information Model
7. Empirical Evidence on the Output-Inflation Trade-Off

### **Reading List:**

- (a) (\*) Romer (2012), Chapter 6.

## **Topic 7: Dynamic New Keynesian Macroeconomics**

1. Empirical Evidence on Sticky Prices
2. Building Blocks of Dynamics New Keynesian Models
3. A New Keynesian Model for Monetary Analysis
4. The New Keynesian Phillips Curve
5. Solving the Basic New Keynesian Model using DYNARE

### **Reading List:**

- (b) (\*) Romer (2012), Chapter 7.
- (c) (\*) Galí (2015), Chapter 3.
- (d) (\*) Walsh (2010), Chapter 8.

## **Topic 8: Monetary Policy**

1. Optimal Monetary Policy
2. Monetary Policy Rules, the Taylor Principle, and Indeterminacy
3. Dynamic Inconsistency of Monetary Policy

### **Reading List:**

- (a) (\*) Romer (2012), Chapter 11.
- (b) (\*) Galí (2015), Chapter 4.
- (c) (\*) Walsh (2010), Chapter 7.

## **Topic 9: Fiscal Policy**

1. Ricardian Equivalence and Reasons for Ricardian Non-Equivalence
2. Ricardian Equivalence under the Representative Agent Framework
3. Government Budget Deficits in an OLG Model
4. Empirical Evidence on Ricardian Equivalence
5. Optimal Fiscal Policy

### **Reading List:**

- (a) (\*) Romer (2012), Chapter 12, Sections 12.1 – 12.3.
- (b) Obstfeld and Rogoff (1996), Chapter 3, Sections 3.1 and 3.2.
- (c) Végh (2013), Chapter 10.

### Section 3 – Open Economy Macroeconomics

#### **Topic 10: Intertemporal Trade and the Current Account**

1. A Small Two-Period Endowment Economy
2. Explaining Intertemporal Trade Patterns
3. Defining the Current Account
4. The Role of Government Spending
5. The Role of Investment Spending
6. The Feldstein -Horioka Saving-Investment Puzzle

#### **Reading List:**

- (a) (\*) Obstfeld and Rogoff (1996), Chapter 1, Sections 1.1.1 – 1.1.6 and 1.2.1 – 1.2.3 and p161 – p164.
- (b) (\*) Obstfeld and Rogoff (2001), “The Six Major Puzzles in International Macroeconomics. Is There a Common Cause?” *NBER Macroeconomics Annual 2000*, p349 – p359.
- (c) Feldstein and Horioka (1980), “Domestic Savings and International Capital Flows”, *Economic Journal*, 90, pp314 – 329.

#### **Topic 11: Uncertainty and International Financial Markets**

1. Arrow-Debreu Securities and Complete Asset Markets
2. A Two-Period Small Open Economy Model
3. A Global Two-Country Model
4. The International Consumption Correlations Puzzle
5. The Backus-Smith Puzzle
6. International Portfolio Diversification

#### **Reading List:**

- (a) (\*) Obstfeld and Rogoff (1996), Chapter 5, Sections 5.1 – 5.1.6, Sections 5.2 – 5.2.1 and Section 5.3.
- (b) (\*) Obstfeld and Rogoff (2001), “The Six Major Puzzles in International Macroeconomics. Is There a Common Cause?” *NBER Macroeconomics Annual 2000*, p359 – p372.
- (c) (\*) Végh (2013), Chapter 2, Section 2.3.

## **Topic 12: Capital Inflows and Financial Crises: Understanding Sudden Stops and the 2007/08 Financial Crisis**

1. Stylized Facts
2. The Origin of Capital Inflows
3. The Economics of Sudden Stops
4. A Theory of Leverage
5. Leverage as an Amplification Mechanism
6. A Decoupling-Recoupling Model

### **Reading List:**

- (a) (\*) Végh (2013), Chapter 14, Sections 14.1 – 14.4 and Chapter 17, Sections 17.1 – 17.4.
- (b) Jeanne and Korinek (2010), “Excessive Volatility in Capital Flows: A Pigouvian Taxation Approach”, *American Economic Review: Papers and Proceedings*, 100, pp403 – 470.
- (c) Korinek, Roitman and Végh (2010), “Decoupling and Recoupling”, *American Economic Review: Papers and Proceedings*, 100, pp393 – 397.
- (d) Hutchison and Hoy (2006), “Sudden Stops and the Mexican Wave: Currency Crises, Capital Flow Reversals and Output Loss in Emerging Markets”, *Journal of Development Economics*, 79, pp225 – 248.
- (e) Diamond and Rajan (2009), “The Credit Crisis: Conjectures about Causes and Remedies”, *American Economic Review*, 99, pp606 – 610.
- (f) Mishkin (2011), “Over the Cliff: From the Subprime to the Global Financial Crisis”, *Journal of Economic Perspectives*, 25, pp49 – 70.
- (g) Leal and McKnight (2014), “Reflections on modern macroeconomics”. In Leal and McKnight (Eds.), *Contemporary Topics in Macroeconomics*. El Colegio de México, pp19 – 42.
- (h) Turner (2014), “Leverage, Financial Stability, and Deflation”. In Akerlof, Blanchard, Romer and Stiglitz (Eds.), *What Have We Learned? Macroeconomic Policy After the Crisis*. MIT Press, pp165 – 175.

## **Topic 13: Nominal Exchange Rate Regimes**

1. Speculative Attacks on Fixed Exchange Rate Regimes: A First Generation Model
2. Multilateral Arrangements to Fix Exchange Rates
3. Speculative Attacks on Fixed Exchange Rate Regimes: A Second Generation Model

### **Reading List:**

- (a) (\*) Obstfeld and Rogoff (1996), Chapter 8, Section 8.4.
- (b) (\*) Végh (2013), Chapter 5.

- (c) Sachs, Tornell and Velasco (1996), “The Mexican Peso Crisis: Sudden Death or Death Foretold?” *Journal of International Economics*, 41, pp265 – 283.
- (d) Calvo and Mendoza (1996), “Mexico’s Balance of Payments Crisis – A Chronicle of a Death Foretold”, *Journal of International Economics*, 41, pp235 – 264
- (e) Saxena (2004), “The Changing Nature of Currency Crises”, *Journal of Economic Surveys*, 18, pp321 – 350.

#### **Topic 14: Money and Exchange Rates under Sticky Prices**

1. The Mundell-Fleming-Dornbusch Model
2. Solving the Mundell-Fleming-Dornbusch Model using Phase Diagrams
3. Exchange Rate Overshooting
4. Analytical Solution of the Mundell-Fleming-Dornbusch Model
5. Fixed vs. Flexible Exchange Rate Regimes

#### **Reading List:**

- (a) (\*) Obstfeld and Rogoff (1996), Chapter 9, Sections 9.1 – 9.2 and Sections 9.3 – 9.32.
- (b) Rogoff (2002), “Dornbusch’s Overshooting Model after 25 Years: IMF Mundell-Fleming Lecture”, *IMF Staff Papers*, 49 (Special Issue), pp1 – 34.

**Laboratorios de Macroeconomía Avanzada: El Programa (2018)**  
**Mtro. Humberto Martínez García**  
**Jueves, 18:00 – 19:30**  
**Salón: 2269**

<b>Week</b>	<b>Date</b>	<b>Material to be Covered</b>
1	9 <sup>th</sup> August	No class
2	16 <sup>th</sup> August	No class
3	23 <sup>rd</sup> August	Problem Set 1 (Solow Model)
4	30 <sup>th</sup> August	Problem Set 2 (Ramsey Model)
5	6 <sup>th</sup> September	Problem Set 3 (OLG Model)
6	13 <sup>th</sup> September	Problem Set 4 (Endogenous)
7	20 <sup>th</sup> September	Revision Class for Mid-Term Exam
8	27 <sup>th</sup> September	No class (Mid-Term Exam)
9	4 <sup>th</sup> October	Answers to Mid-Term Exam
10	11 <sup>th</sup> October	Problem Set 5 (RBC Model)
11	18 <sup>th</sup> October	DYNARE 1: Basic RBC Model
12	25 <sup>th</sup> October	DYNARE 2: Basic New Keynesian Model
13	1 <sup>st</sup> November	No class (Asueto oficial)
14	8 <sup>th</sup> November	Problem Set 6 (Current Account)
15	15 <sup>th</sup> November	Problem Set 7 (Uncertainty)
16	22 <sup>nd</sup> November	Revision Class for Final Exam