Macroeconomics I

Course title – Intitulé du cours	Macroeconomics I
Level / Semester – Niveau /semestre	M2 / S1
School – Composante	Ecole d'Economie de Toulouse
Teacher – Enseignant responsable	Collard Fabrice
Other teacher(s) – Autre(s) enseignant(s)	Hellwig Christian
Other teacher(s) – Autre(s) enseignant(s)	
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Other teacher(s) – Autre(s) enseignant(s)	
Lecture Hours – Volume Horaire CM	30
TA Hours – Volume horaire TD	
TP Hours – Volume horaire TP	
Course Language – Langue du cours	Anglais/English
TA and/or TP Language – Langue des TD et/ou TP	Anglais/English

Teaching staff contacts – Coordonnées de l'équipe pédagogique :

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Course Objectives – Objectifs du cours :

The objective of this course is to introduce students to the methods and models of modern macroeconomics. Although these methods will be studied in the context of macroeconomics, they are commonly used in many other fields of economics, such as labor economics, development economics, industrial organization, public economics, international or financial economics (corporate finance or asset pricing).

Macroeconomics, like most areas of economics, is an empirical field. Throughout the course, we will emphasize the need to confront theoretical results to empirical evidence. This will lead us to assess how models address questions raised by the data and impose a discipline on the data, reciprocally how the data also impose discipline on the model, how models can be confronted to the data, how to interpret results.

The first semester is dedicated to the canonical complete markets model. Although this framework is not without limitations, it allows to analyze a wide variety of phenomena including growth, business cycle analysis, … and constitutes the main platform upon which more complex models –studied in the second semester– builds. We will then branch out to other topics such as Risk sharing, asset prices, fiscal policy, firm dynamics, job search. The first semester focuses on the methods to develop, solve, simulate and confront macroeconomic models to the data (The second semester will bring students to

the frontier of modern macroeconomics, in which microeconomic heterogeneity and frictions play an important role in shaping cross-sectional and aggregate allocations).

The first part of the course by F. Collard will be organized around the following topics

- **Complete Market Economies:** These lectures will develop the baseline complete market economy, and derive some important properties that characterize the associated allocations. This part introduces students to the central planner allocation and its decentralization, introduces the notion of sequential trading and Arrow-Debreu securities. We will also see how a vast variety of models actually maps in this framework.
- **Business Cycles :** We will build a first baseline dynamic general equilibrium model (the so-called Real Business Cycle (RBC) model) that aims at explaining some of the facts we will have discussed in the first lectures. We will see how to write the model (and why it is written that particular way), have a critical discussion of the main assumptions, derive a method to solve and simulate the model, and will then confront its predictions to the data. In that sense we will address the main questions raised by Quantitative Macroeconomics. We will then revisit critically the previous model. We will review a method to identify margins on which a model fail to account for the facts, and in so doing will identify dimensions along which models should be improved.
- **Using the Model : We** will show how the baseline model can be used to shed new light on History, build counterfactuals to understand a phenomenon and isolate the important margins that were driving a particular event ---in this instance the Great Depression in Germany.
- **Fiscal Policy:** We will review some important results from fiscal policy such as Ricardian equivalence, the Chamley-Judd Result on capital taxation, tax smoothing, the importance of full commitment.

The second part of the class, taught by C. Hellwig, will touch upon

- **Risk-sharing:** Measuring risk-sharing and testing the complete risk-sharing hypothesis (1 lecture)
- **Asset Pricing:** basic principles of no-arbitrage asset pricing. Risk premia and the equity premium puzzle. Hansen-Jagannathan bounds. The No-Bubbles theorem (3-4 lectures)
- **Labor Search:** Mortensen-Pissarides search model of the labor market, efficiency and Hosios condition, Competitive search, Shimer puzzle (3-4 lectures)
- **Firm Dynamics:** Basic Facts on Firm Dynamics. The Hopenhayn model. Factor mis-allocation and TFP (Hsieh-Klenow). (2-3 lectures)

By the end of this course, student should be comfortable with 1) the main building blocks of modern macroeconomics, 2) the basic tools that are used in macroeconomic modeling (and more generally in dynamic models), 3) how to use models to organize the data.

Prerequisites – Pré requis :

Basic optimization theory, Intermediate Macroeconomics, Basic Microeconomics (Consumer theory, theory of the firm)

Computers allowed in the classroom

Students are expected to participate actively to the class. There will be a weekly set of TA sessions. Students will be assigned a set of practical problems to develop your own modeling, computational and empirical skills. You are encouraged to work in group.

Grading system - Modalités d'évaluation :

Evaluation will be based on a Mid-term exam and a final exam.

Bibliography/references - Bibliographie/références :

Slides + Lecture notes will be distributed in due time. Some books may however be useful to skim through in some cases:

1. Ljungquist and Sargent: Recursive Macroeconomic Theory, 2nd edition (MIT Press, available online): Offers technical background material for various parts of this course.
2. Stokey and Lucas: Recursive Methods in Economic Dynamics (Harvard University Press): This book offers background reading on dynamic programming and Markov processes (useful if you want to improve your math skills)

Distance learning – Enseignement à distance :

In case of lockdown, the lectures will take place online.