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APE BOOKLET  
Academic year 2021-2022

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**Economics of Public Intervention**  
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**Industrial organization**  
**Information, design and market**  
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**Financial and Monetary Macroeconomics**  
**Foreign Investment**  
**From statistical physics to social sciences: an outline**  
**General Equilibrium Theory**



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APE BOOKLET  
Academic year 2021-2022

**Historical Demography**

**Industrial organization and applications to antitrust and regulations**

**Intertemporal choice under uncertainty**

**Introduction to Economic History**

**Machine learning in economics**

**Migration**

**Monetary and Financial History**

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## M1 APE SYLLABUS – semester 1

Econometrics 1: Linear Econometrics				
Field: <b>Quantitative Methods</b>	Teacher.s: <b>Nicolas JACQUEMET</b>	TA.s: <b>Pascale CHAMPALAUNE</b>	Course load: <b>24 hours</b>	ECTS: <b>5</b>
Type course: <b>Compulsory</b>			Tutorial load: <b>18 hours</b>	

### Presentation:

The prerequisites needed are probability and statistics, linear algebra, finite sample properties of OLS / Testing under the normality assumption. See Magnus (2017).

Introduction to the Theory of Econometrics, V.U. Press. Outline:

1. Introduction. What econometrics is about / The inference problem / Reminder of finite sample OLS properties.
2. Statistical inference. Reminder on asymptotic theory (Law of Large Numbers, The Central Limit Theorem) / Asymptotics of OLS.
3. Non-Spherical disturbances. Heteroscedasticity, Clustering, Autocorrelation, Testing procedures (Breush-Pagan, Durbin-Watson, White).
4. Identification Issues in the Linear Model. Omitted variable bias, Measurement error bias, Functional form misspecification.
5. Instrumental variable estimation. IV estimator, exclusion restriction, Consistency of the IV estimator, Hausman test, Sargan test. The Rubin model, difference estimators.

### Evaluation:

(10%) Homework assignment: distributed during the second tutorial, due at the end of the semester.

(40%) Closed book mid-term exam, during the tutorial. (50%) Closed book written exam.



Game theory				
Field: <b>Microeconomics</b>	Teacher.s: <b>Olivier COMPTE</b>	TA.s: <b>Laure GOURSAT</b>	Course load: <b>24 hours</b>	ECTS: <b>5</b>
Type course: <b>Compulsory</b>			Tutorial load: <b>18 hours</b>	

Presentation:

Game Theory aims at analyzing strategic situations, that is, situations in which the payoff of an agent may depend on the actions of other agents. Examples of strategic situations are situations of conflict, cooperation, coordination, information transmission or manipulation. Game theory has applications in several fields, such as economics, politics, law and biology. In this course, we will introduce the basic tools of game theory, and some of the main applications of game theory will be outlined. Warning: we will solve many games in class and T.D. Yet, solving exercises on your own is key to understanding the concepts. Do not wait for the final exam for that... Recommended books: - R. Gibbons. "Game theory for applied economists" - M. Osborne and A. Rubinstein. "A course in Game theory" - R. Myerson. "Analysis of Conflict".

Evaluation:

Final Exam: 50%, Midterm: 30%, Tutorial Grade: 10%, Participation Tutorial: 5%, Presence course: 5%.

International Economics				
Field: <b>Macroeconomics</b>	Teacher.s: <b>Francesco PAPPADA and Thierry VERDIER</b>	TA.s: <b>Brendan VANNIER and Léa MARCHAL</b>	Course load: <b>24 hours</b>	ECTS: <b>5</b>
Type course: <b>Compulsory</b>			Tutorial load: <b>18 hours</b>	

Presentation:

The course is in two parts:

- International Trade (T. Verdier)
- International Macroeconomics (F. PAPPADA).

*International Trade's part overview:*

This course is devoted to the study of international trade issues. The objective is to introduce to the students at the first-year graduate level, the standard general equilibrium models used in international trade theory. It presents theories that explain the existence of trade between nations or regions and the specificities of these exchanges (inter-sectoral or intra sectoral trade patterns). It also discusses the consequences of trade liberalization from a normative perspective on the welfare of nations, the impact of trade flows on the income distribution and inequality within and between regions. Traditional theories of trade based on the concept of comparative advantage are examined, together with new explanations for international trade under imperfect competition. The role of trade policy (tariff and non-tariff barriers) and the associated gains and losses are discussed within the framework of these theories.

The class will be structured around 6 blocks covered in class and during tutorials.

Lecture 1 - Globalization: an Overview, Comparative Advantage and Gains from trade.

Lecture 2 - Ricardian Models of International Trade

Lecture 3 - The Heckscher-Ohlin Model of International Trade (I)

Lecture 4 - Generalizations of Heckscher Olhin Models (II)

Lecture 5 - Imperfect Competition, Trade and Firms

Lecture 6 - Trade Policy

*International Macroeconomics' part overview:*

This course is an introduction to open economy macroeconomics and international finance. The core objective of the course is to develop simple macroeconomic models of open economies that can be

usefully applied to international economic phenomena. We will examine the balance of payments, the determination of exchange rates, and the effect of fiscal and monetary policies under fixed and floating exchange rate regimes.

The class will be structured around 6 blocks covered in class and during tutorials.

1. National accounting: the Balance of Payments
2. The transfer problem
3. The intertemporal view of the current account
4. Foreign Exchange Rate Markets, Arbitrage and Parity Conditions
5. Flexible Exchange Rates and Output in the Short Run
6. Fixed Exchange Rates

Evaluation:

Students have to choose between the two parts; they pass the exam and validate only one part but still for a total of 5 ECTS.

Introduction to Economic History				
Field: <b>Economic History</b>	Teacher.s: <b>Thomas PIKETTY</b>	TA.s: <b>n/a</b>	Course load: <b>24 hours</b>	ECTS: <b>3</b>
Type course: <b>Compulsory</b>			Tutorial load: <b>n/a</b>	

Presentation:

The objective of this course is to present an introduction to economic history, with special emphasis on the interaction between capital accumulation, the global distribution of income and wealth, and growth.

Evaluation:

To validate the course, students are required to attend and actively participate to all lectures; to take the exam.

Macroeconomics 1				
Field: <b>Macroeconomics</b>	Teacher.s: <b>Jean-O. HAIRAUT and Tobias BROER</b>	TA.s: <b>Juan-C. MEDELLIN and Bayram CAKIR</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Compulsory</b>			Tutorial load: <b>24 hours</b>	

Presentation:

This course introduces concepts and tools used in macroeconomic analysis.

In the first part, starting with a presentation of the AS/AD model and its critique by Robert Lucas, the course aims at presenting the New-Keynesian approach: foundations of nominal price rigidities in a monopolistic framework. The implications for monetary policy are then studied.

The second part of the course, taught by Tobias Broer, introduces students to the standard framework of dynamic macroeconomic analysis, built on the neoclassical growth model. After a presentation of the main macro facts, the course introduces the growth model. An application to climate change follows, in the form of "Integrated Assessment Models". Shocks are then introduced in the standard model to study business cycles. The last part looks at monetary policy in a version of the model with nominal rigidities, including simple heterogeneous agent New Keynesian (HANK) models. The course finishes with a critical discussion of the approach, and other extensions.

Evaluation:

50% Midterm, 50% Final exam.

Mathematics and Statistics for Economics Analysis				
Field: <b>Quantitative Methods</b>	Teacher.s: <b>Jérémie GIGNOUX</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>n/a</b>
Type course: <b>Optional</b>			Tutorial load: <b>n/a</b>	

Presentation:

This course aims at providing students with both an understanding and some practice of the core techniques of Statistics and Mathematics for economists, the command of which is necessary for subsequent courses in Econometrics and economic analysis. The course has two parts. The Mathematics part covers the core methods for static (including the resolution of the Lagrange and nonlinear programming problems) and dynamic optimization methods (using the maximum principle primarily) and includes a chapter on the resolution of differential equations. The Statistics part begins with the properties of random samples (including normal samples and convergence concepts), before turning to point estimation and hypothesis testing (using the maximum likelihood approach primarily).

Evaluation:

n/a



Microeconomics 1				
Field: <b>Microeconomics</b>	Teacher.s: <b>Pierre-Y. GEOFFARD and Matthieu LEDUC</b>	TA.s: <b>Caroline LIQUI LUNG</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Compulsory</b>			Tutorial load: <b>24 hours</b>	

Presentation:

Through this course, students will learn basic concepts of microeconomics such as constraints, consumer theory, aggregate demand, production and equilibrium.

Evaluation:

50% Final exam, 30% Midterm, 20% participation and homework.



R Practice Class				
Field: <b>Quantitative Methods</b>	Teacher.s: <b>n/a</b>	TA.s: <b>Hannah BULL</b>	Course load: <b>n/a</b>	ECTS: <b>n/a</b>
Type course: <b>Optional</b>			Tutorial load: <b>8 hours</b>	

Presentation:

The aim of this class is to gain basic knowledge of R, a software for statistical and econometric analysis.

Evaluation:

n/a

## M1 APE SYLLABUS – semester 2

Development Economics				
Field: <b>Optional Seminar</b>	Teacher.s: <b>Denis COGNEAU, Sylvie LAMBERT and Oliver VANDEN EYNDE</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

### Presentation:

This lecture offers an introduction to contemporary research in development economics, emphasizing approaches that can be quite diverse but share the same concern for establishing empirical facts. It aims at providing a first contact with recent research papers.

The course is organized around the 6 following topics:

1. What is development
2. History of development
3. Poor Economics
4. Agriculture
5. Democracy
6. Infrastructure and service provision.

### Evaluation:

Open book exam.

Econometrics 2				
Field: <b>Quantitative Methods</b>	Teacher.s: <b>Mélika BEN SALEM and Catherine DOZ</b>	TA.s: <b>Thomas DESPOIS</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Compulsory</b>			Tutorial load: <b>24 hours</b>	

Presentation:

This course is mainly devoted to stationary time series analysis, and also introduces non-stationary time series. The main problems which can be encountered in econometric modelling with macroeconomic time series will be first introduced, and practical examples will be given. Then, all the basic notions concerning time series will be addressed in a univariate framework. Formal examples as well as practical illustration on real macroeconomic data will be given. Finally, the course ends by an introduction to the multivariate framework.

The outline of the course is the following:

- Econometric modelling with macroeconomic time series: general issues concerning autocorrelation and stationarity vs non-stationarity.
- Univariate stationary processes, ARMA processes, innovations process, Wold representation, forecasting
- Univariate non-stationary processes and unit root tests
- Multivariate processes and stationary VAR processes.
- Short introduction to unobserved component models and Kalman filter (only if there is enough time)

Evaluation:

There will be a final written exam, which will count for 50% of the grade. 25% of the final grade will be provided by homework and the remaining 25% by a mid-term exam.

Econometrics 3				
Field: <b>Quantitative Methods</b>	Teacher.s: <b>Luc BEHAGHEL and Philipp KETZ</b>	TA.s: <b>Eric TESCHKE</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Compulsory</b>			Tutorial load: <b>24 hours</b>	

Presentation:

The course covers four broad topics.

After a summary of the traditional approach to causality in cross-sectional linear models (lecture 1), lectures 2-6 present the "**treatment effect**" or "program evaluation" approach to causality. In lecture 2, we present the treatment effect model, also known as Rubin's model, that is the common framework used in this approach, and apply it to the analysis of randomized controlled experiments. In lecture 3, we cover advanced issues with instrumental variables, and their use to analyze quasi-experiments. In lecture 4, we analyze regression discontinuity designs. In lecture 5, we cover matching estimators, and in lecture 6, synthetic controls.

Lectures 7 and 8 deals with panel data. We consider them from two perspectives: endogeneity and dynamics. One advantage of panel data over cross-sections is indeed to offer new ways to deal with endogeneity. We present simple models that account for the presence of permanent differences across units (individual effects, lecture 7). We then discuss how instrumental variables can be used in that context. To that end, we introduce a general class of estimator that uses the "generalized method of moments" (GMM) (lecture 8).

Lectures 9-12 cover Maximum Likelihood (ML) estimation and its main applications in applied economics. First, the concept of ML is introduced together with its large sample justification [lecture 9]. Then, we discuss several models which are frequently used in economics and estimated by means of ML [lecture 10-11]. A broad class of models is given by **limited dependent variable** models. A prominent example is the binary choice model. In this context, we contrast ML estimation with linear regression models that ignore the nature of the binary choice variable. Other examples of limited dependent variable models are (multivariate) discrete choice, censored regression, and duration models. We discuss estimation of these models along with several testing problems of interest, such as model specification. Furthermore, we discuss how ML estimation can be used in the context of **sample selection** issues, that is when the estimation sample is not representative of the population of interest [lecture 11]. In addition, we discuss alternative, less "parametric" solutions to the problem of sample selection. Last, we discuss an empirical application to illustrate the usage of some of the newly introduced estimation methods used in practice [lecture 12].

Evaluation:

- 50% final exam (about equally split between lectures 1-8 and 9-12)
- 20% mid-term exams (on lectures 1-5)
- 30% tutorials (randomly chosen questions from problem sets + class participation)

Economics of People				
Field: <b>Optional Seminar</b>	Teacher.s: <b>Hippolyte D'ALBIS</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

This course proposes an introduction of the economic analysis of demographic trends. Overpopulation, health crisis, mass migrations, gender inequality... all those topics are part of current political and public debates, but are generally not discussed with scientific rigor. The main objective of this course is to provide analytical tools for an independent, coherent and data-driven thinking of those topical issues.

The course is organized around six broad questions for which there is no definitive answer but for which recent research in economics, epidemiology and demographics can be useful to those who want to make their own opinions. It will present some basic notions developed in other sciences that are usually not part of the classical curriculum in economics but which can be easily implemented in economic analysis.

Hippolyte d'Albis is specialized in economic demography and has made scientific contributions to the six questions that are studied; he continues to work on them and has still many doubts about how addressing them correctly. He will share those difficulties with the students and initiate discussions in class on how to overcome them.

Evaluation:

Pending.

Environmental Policies				
Field: <b>Optional Seminar</b>	Teacher.s: <b>Mouez FODHA, Fanny HENRIET and Hélène OLLIVIER</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

The course will focus on the issues of sustainable development, the environment and natural resources.

The objective is to present the foundations and main results of economic analysis of environmental policies.

The course will start with a brief presentation of facts and data, and will give a descriptive approach of the evolution of climate change, water quality, forests, fisheries, resources and pollution.

In a second step, the course will present the fundamentals of public economics, mainly based on “public goods” and “externalities”. The rest of the course will study the environmental policy instruments (theoretical framework and applied issues), and the links between international trade and the environment.

Evaluation:

Final report

Industrial Organization				
Field: <b>Optional Seminar</b>	Teacher.s: <b>Philippe GAGNEPAIN</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

This class will develop the main empirical methods used in industrial organization. In particular, we will focus on the tools used to identify firms' conduct and shed light on the nature of competition, quantify the damages of a cartel or those faced in the case of an abuse of dominant position; we will learn as well to simulate the economic consequences of a merger between firms. We will focus on the strategies used by firms to deter (or accommodate) entry of potential competitors. Finally, we will discuss potential pricing inefficiency in vertically related markets which arise from the so-called double marginalization problem. Special emphasis will be given in this course to the construction of each empirical model that will be tested with data.

Evaluation:

Final exam

Labour Economics				
Field: <b>Optional Seminar</b>	Teacher.s: <b>Thomas BREDA and François FONTAINE</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

This course is structured around some of the main topics in modern labor economics. It introduces selected recent research questions together with the theoretical and empirical tools needed to address them.

1. Firms' labor market power
2. Unemployment insurance and redistribution
3. Globalization/trade and unemployment and/or inequality
4. Labor unions and inequality (within and between firms)
5. The effects of codetermination
6. Effects of wage transparency
7. Social networks and job search
8. Consequences of Implicit biases (measured with the IAT)
9. Consequences of early parental investments

Evaluation:

Oral presentations

Macroeconomic Policies				
Field: <b>Optional Seminar</b>	Teacher.s: <b>Agnès BENASSY- QUERE</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

The aim of the Economic policy course is to teach how to identify the relevant theoretical and economic knowledge for a given macroeconomic policy issue, and how to use it. The students are required to master the basic, undergraduate knowledge in macroeconomics, monetary economics, microeconomics, international trade and finance. After discussing how economic policy can be modelled, how it can be positioned relative to the decision-making process and what its limits are, the course will cover 3 policy areas: fiscal, monetary and financial.

Evaluation:

The validation of the course goes through a final exam, active participation in class, and the drafting of a 2-pages policy note on a specific topic to be agreed upon. The note will need to explicitly rely on at least 2 research papers published in academic journals. Addressed to a specific policy-maker (e.g. Finance minister of a country), it will provide a recommendation to be precisely documented, with appropriate data. The bibliography will be provided in appendix (3rd page). Each note will be written by a group of 2-3 students.



Macroeconomics 2				
Field: <b>Macroeconomics</b>	Teacher.s: <b>Daniel COHEN and Gilles SAINT-PAUL</b>	TA.s: <b>Thomas ZUBER and Brendan VANNIER</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Compulsory</b>			Tutorial load: <b>24 hours</b>	

Presentation:

Part I - An advanced introduction to the theories of growth, disequilibrium and imperfections. The course will discuss the topics of Ramsey model, time inconsistency; define the purpose and the efficiency of fiscal and monetary policies; study the mechanics of sovereign debt, and finally discuss the interests and limits of endogenous growth models.

Part II - This part of the course will be an introduction to the theory of frictional labor and credit markets.

Evaluation:

10% of the final grade will be based on class participation and 45% on written evaluations for each part of the the course (including mid-term, homeworks and final).

Microeconomics 2 : Market Equilibrium and Market Failures				
Field: <b>Microeconomics</b>	Teacher.s: <b>Francis BLOCH and Bernard CAILLAUD</b>	TA.s: <b>Benjamin BLUMENTHAL</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Compulsory</b>			Tutorial load: <b>24 hours</b>	

Presentation:

The fundamental welfare theorems establish the perfectly competitive case as a benchmark for thinking about outcomes in market economies. In particular, any inefficiencies that arise in a market economy, and hence any role for Pareto-improving market intervention, must be traceable to a violation of at least one of the building assumptions of the perfectly competitive case. The analysis of these market failures is the topic of this course.

The course consists in three parts:

The first part covers classical market failures without informational concerns: market power, externalities and public goods. It introduces basic results and serves as an introduction to any further course in public economics and in industrial organization.

The second part is devoted to the study of informational imperfections and asymmetries as a source of inefficiencies. Starting from the failure of the competitive equilibrium paradigm in a context of informational asymmetries, it first presents central models of transaction under asymmetric information, the so-called Principal - Agent models. Moving to interactive situations with multiple agents, the course then introduces mechanism design, with applications to auctions and public good provision.

The third and last part adopts a normative point of view. It analyzes cooperation and bargaining with applications to cost sharing.

Evaluation:

The final grade for the course will consist in the weighted average of:

- A grade for the four homework assignments and for participation in the main lectures and the tutorials (20%)
- A grade for the 2h midterm exam (30%)
- A grade for the final 3h exam (50%)

Optional Seminar				
Field: <b>Social Sciences</b>	Teacher.s: <b>n/a</b>	TA.s: <b>n/a</b>	Course load: <b>24 hours</b>	ECTS: <b>3</b>
Type course: <b>Compulsory</b>			Tutorial load: <b>n/a</b>	

Presentation:

Students must follow in M1 APE an optional course outside the Economics field at one of our partner institutions – EHESS/Paris 1/ENS.

Evaluation:

Depending on the chosen course.

## M2 APE SYLLABUS – core courses

Advanced Economic History				
Field: <b>Economic and Social History</b>	Teacher.s: Facundo ALVAREDO, Jérôme BOURDIEU, Denis COGNEAU, Pierre-Cyrille HAUTCOEUR, Lionel KESZTENBAUM, Eric MONNET, Thomas PIKETTY	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

### Presentation:

Advanced Economic History is the core course of the Economic History topic and, as such, is highly recommended for students wishing to specialize in economic history and related subjects. This is a collective course designed and taught by members of the Centre d'histoire économique et sociale François-Simian. It aims at presenting the state of the field using examples and topics from various research areas in economic history. The course is jointly taught by Facundo Alvarado, Jérôme Bourdieu, Denis Cogneau, Pierre-Cyrille Hautcoeur, Lionel Kesztenbaum, Eric Monnet, and Thomas Piketty.

Although this is not a formal prerequisite, it is assumed that students have already taken the "Introduction to Economic History" course and are familiar with the basic facts regarding the historical evolution of income and wealth, the changing composition of capital ownership, etc. Students who have not taken the introduction course (or need to refresh their memory) are strongly encouraged to go through the syllabus and slides used in this course.

Advanced Economic History is organized in 12 lectures of 3 hours. To validate the course, students are required to attend and actively participate to all lectures. The evaluation relies on two written comments of some of the papers studied during the course, in the format of a referee's report. In practical terms, it means each student will receive two papers to evaluate, randomly chosen on the list of references given for each session, given that: a/ the two papers will be related to two different teachers; and b/ there is a fixed limit to the number of students assigned to each teacher (more or less ten students per teacher, the exact number depending on the total number of students).

Articles will be distributed at the end of the course, late november, and the deadline to hand the term papers is January 19th 2022.

Each session is focused on one topic in economic history and discusses that topic in length. In each case, there are two 'mandatory paper' –reference papers on the topic– and various 'advanced readings' for those more interested by these topics. At the very least reading the 'mandatory paper' in each session is necessary/useful to follow the course. In addition, these two papers will be used for



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## M2 APE SYLLABUS – core courses

the evaluation (unless otherwise specified by the teacher). For those who want to go further there is an additional list with the main references on each topic, which form the basis of the talk.

### Evaluation:

To validate the course, students are required (1) to attend and actively participate to all lectures; (2) to take the exam.



Advanced Macroeconometrics				
Field: <b>Macroeconomics</b>	Teacher.s: <b>Catherine DOZ and Laurent FERRARA</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

This class aims to review time series techniques and their application to macroeconomics. It is mainly devoted to VAR models, in the stationary as in the non-stationary framework. The first part of the class provides macroeconomic applications of stationary VAR models, with a particular focus on shocks propagation and on structural VARs. The second part focuses on the non-stationary VAR framework and in particular the cointegrated VAR framework and its implications in terms of common trends and shocks propagation. It will also contain a very short introduction do Dynamic Factor Models and to FAVAR models.

Evaluation:

Written exam



Advanced Microeconometrics				
Field: <b>Labor and Public Economics</b>	Teacher.s: <b>David MARGOLIS and François LIBOIS</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

*1 – D. Margolis' part overview:*

This class will present tools and themes in microeconometrics, insisting on the intuition (but not avoiding the math). We will only deal with frequentist (not Bayesian) econometrics:

- Models, DGPs and Estimation: Loss functions, estimator properties
- Quantile regression
- Specification: testing, cross-validation, endogeneity, unobserved heterogeneity
- Panel data techniques: multi-level static and dynamic models
- Alternative specifications for statistical distributions and duration models
- Semi- and Non-parametric methods (Kaplan-Meier, cox partial hazards, kernel density estimation, Kolmogorov-Smirnov, non-parametric and local regression)
- Numerical methods: integration, simulation, bootstrap, optimization algorithms

*2 – F. Libois' part overview:*

- Robust statistics: introduction and basic concepts Quantile regression
- Robust statistics: univariate robust statistics
- Robust statistics: robust boxplots
- Robust linear regression

Evaluation:

DM: Report

LB: Report (or final exam)



Behavioral economics and bounds on rationality				
Field: <b>Economic Theory</b>	Teacher.s: <b>Philippe JEHIEL and Olivier COMPTE</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

*1 – P. Jehiel's part overview:*

The modern approach to solution concepts in games is by a learning story. Players may have wrong expectations (either about the opponent's play or about the assessment of their own strategy) to start with, but as experience accumulates expectations should get closer to the truth: if behaviors stabilize they should correspond to an equilibrium play. However, this view (at least applied in a strict sense) seems less plausible in complex games. Think of chess. Predicting what the opponent will do in more than a few steps ahead is impractical. Knowing or learning the value of a board position is impossible (for most positions), even for the best chess players. Such simple considerations suggest the need to develop models of bounded rationality, which may next be used to approach a number of economic interactions in a new way. The objective of the course is to stimulate new research in game theory and applications that maintains the game theoretic tradition of high logical standards while incorporating elements of bounded rationality/behavioral economics in the analysis. Various approaches to behavioral economics and bounded rationality are discussed in the course.

*2 – O. Compte's part overview:*

The objective of the class is to take a critical journey across economic theory (decision theory under uncertainty, auctions, repeated games, reputation, information transmission...).

Our models generally assume that agents know with precision the environment they face, or the exact distributions over the parameters that the analyst assumes. This places strong cognitive demands on agents, or it gives agents extraordinary powers of discernment. Our aim will be to identify these cognitive demands, highlight how our intuitions are shaped by (and sometimes hinge on) these demands, and suggest alternative models that assume lesser sophistication on agents.

Along the way, we shall also review how the path proposed, based on direct strategy restrictions, compete with other methods for limiting the rationality of economic agents.

Evaluation:

PJ Written exam OC Report



Development Economics				
Field: <b>Development</b>	Teacher.s: <b>Sylvie LAMBERT and Akiko SUWA- EISENMANN</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

This course aims at giving a set of general knowledge in development economics and at surveying the foundation of current research in the field. At the end of this course, students will have acquired factual knowledge of development issues, mastering of analytical tools and understanding of specific empirical challenges.

Students are required to master the main notions of micro and macroeconomics, international trade as well as econometrics.

Evaluation:

There will be a compulsory reading for each lecture. A question about the paper will be given in advance.

-In each lecture, we'll dedicate time to discuss this question. **Participation to the discussion** is rewarded with bonus points added to the final grade.

-Twice (once per part) the **question will have to be answered in written** at the beginning of the lecture. This will have to be done within 10 minutes. Whether the question will have to be answered in written will be announced on the spot. The corresponding grades will contribute to the final grade with a coefficient 0.5 each.

The **final exam** is a 2 hours written exam, with documents and computer allowed. Coeff 3.



Economics of education				
Field: <b>Labor and Public Economics</b>	Teacher.s: <b>Marc GURGAND, Luc BEHAGHEL and Julien GRENET</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

This course provides an introduction to the economic analysis (both theoretical and empirical) of the investment in and provision of education. The theoretical background that explains individual and public investment in education is reviewed and linked to empirical evidence. One important application is the analysis of the returns to education both at the micro and macro level. The course will also analyze the production and provision of education. Examples are the importance of inputs such as teachers and class size, the role of incentives and the analysis of peer effects. Each course will consist of a general introduction by the instructors, followed by one or two presentations of papers by students taken from starred (\*) papers in the reading list.

Evaluation:

Based on presentations (25%) and an exam (75%).



Economics of Public Intervention				
Field: <b>Regulation, Environment, Market</b>	Teacher.s: <b>Philippe GAGNEPAIN and David MARTIMORT</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

*1 – P. Gagnepain's part overview:*

Public intervention encompasses several types of governmental activities. This class focuses more in particular on how a public authority regulates the behavior of firms and ensures that competition law is applied adequately. We will focus on firms' regulation and markets deregulation; in particular, we will study empirical applications of contract theory in a situation of asymmetric information between regulators and operators and discuss tools which allow appraising the effects of deregulation on operating costs. Special emphasis will be given in this course to the construction of each empirical model that will be tested with data.

Content:

- Regulation, deregulation, and efficiency
- Incentives and structural cost functions.
- Measuring efficiency
- Deregulation: The impact on costs, competition, and prices.
- Structural versus reduced functional forms.
- tatic versus dynamic horizons

*2 – D. Mortimort's part overview:*

Suggested Program:

- Preliminary: "All you should know about Incentives Theory and that you did not dare asking and that applies to regulation."
- Models of Delegation: Single-Agent
- Delegation between Congress and Agencies in U.S. politics.
- Collusion, bureaucracy and capture
- Application: The design of regulatory agencies.
- Collusion, delegation and hierarchies.
- Application. Regulation of complementary products



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## M2 APE SYLLABUS – core courses

- Privatization
- Other topics on delegated public management
- Public-Private Partnerships
- Delegation: Multi-Agent Models and Informational Lobbying
- Experts/advocates
- Common Agency
- Application: Lobbying
- “Political Principals”
- Incentives for bureaucrats: Career concerns

### Evaluation:

PG Written exam DM Report

Environmental Economics				
Field: <b>Regulation, Environment, Market</b>	Teacher.s: <b>Mireille CHIROLEU- ASSOULINE and Katheline SCHUBERT</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

This is a course on natural resources economics (Part 1) and environmental economics (Part 2).

*1 – K. Schubert's part overview:*

- Lecture 1: Non-renewable resources
  - Scarcity: facts and data
  - The optimal extraction of a fixed stock of non-renewable resource
  - The role of market structure
  - Extensions: exploration and reserve discoveries; technical progress in extraction; the taxation on non-renewable resources (Ramsey and strategic taxation)
  - Fossil fuels and climate change: facts and data; carbon budget; dynamic Pigouvian taxation; strategic taxation; subsidy to the clean substitute and the Green Paradox.
  - The energy transition: an economic perspective.
- Lecture 2: renewable resources
  - Biological and economic dynamics
  - Open access
  - The optimal exploitation of a renewable resource
  - Applications: fisheries, forests, water, biodiversity

*2 – M. Chiroleu-Assouline's part overview:*

This part examines the application of economic principles to problems of environmental regulation. After an introduction to the theory of externalities, property rights, and corrective measures, we will examine the use of different pollution control tools like Pigouvian taxes, marketable permits, regulatory standards and subsidies, both in terms of their theoretical properties and practical potential as policy instruments. We will then turn to issues in the design of environmental policy under uncertainty or asymmetric information.

- Environmental regulation without uncertainty
  - Externalities and theorems of welfare economics



- Optimal pollution and internalization of the externalities
- Comparison between instruments (efficiency/dynamic efficiency/distributive effects)
- Focus on the distributive effects of carbon pricing
  
- Environmental regulation in an uncertain world
  - Environmental risk
  - Precautionary principle
  - Choice between price/quantity instruments under uncertainty
  
- Environmental regulation under ex ante asymmetric information
  - Firms incentives to hide information about abatement costs
  - Adverse selection and green products – Ecolabels
  - Contract theory
  - Alternative mechanisms
  
- Environmental risk regulation under ex post asymmetric information
  - Non-point source pollution
  - Risk regulation: liability rules
  - Compliance, monitoring and incentives

Evaluation:

K. Schubert part: oral exam

M. Chiroleu-Assouline: final exam

Growth and Structural Changes				
Field: <b>Macroeconomics</b>	Teacher.s: <b>Philippe AGHION, Gilles SAINT-PAUL and Bertrand WIGNIOLLE</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

*1 – P. Aghion's part*

*2 – G. Saint-Paul's part overview:*

- Topic 1: Distributive conflict and economic growth
- Topic 2: Growth and structural change
- Topic 3: ICT, Robots, and Skilled-biased technical progress

*3 – B. Wigniolle's part overview: intergenerational aspects*

This part study how family behaviors may determine growth and structural change. As a tool, the overlapping generations model is introduced: a growth model in which demography appears. After a presentation of the general properties of the basic model (Diamond 1965), the effect of intergenerational transfers is studied. The assumption of altruism is introduced and Ricardian neutrality is considered: how private transfers may offset public ones. Then human capital accumulation and endogenous fertility are introduced. A final part presents how this framework may explain the historical dynamics of economies.

- Growth with overlapping generations: Diamond (1965), basic properties, equilibrium dynamics, efficiency of capital accumulation
- Intergenerational transfers
- Altruism and Ricardian neutrality
- Human capital accumulation and growth
- Endogenous fertility
- Unified growth theory

Evaluation:

Written exam part BW and GSP and report for the part of PA.



Health behavior, health inequalities // Health Economics				
Field: <b>Labor and Public Economics</b>	Teacher.s: <b>Pierre-Yves GEOFFARD and Lise ROCHAIX</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

This course aims at presenting the range of issues addressed in health economics, from efficiency to equity, from individual choices to public decision, from microeconomic decisions to global health. It analyses how the markets for health services differ from others, with an emphasis on market failures and the role of health policy. Key health economic concepts are presented, such as the demand for health and health care, insurance, optimal provider payments, or innovation. One of the strong underlying questions in this course is to examine the role of the market for the provision of health and health services and the ways in which public policy can influence these markets. Another is the comparison between developed and developing countries' challenges. A third underlying question is to assess the potential of recent methodological developments in enhancing economists' understanding of individual behaviors and their determinants, based on recent developments in behavioral economics. The course will also include a short presentation of socio-economic calculus applied to healthcare.

Sessions will include formal lectures with interactions with students. For some of the sessions, post-doctoral or doctoral students as well as researchers at PSE will be invited to participate.

Evaluation:

The evaluation for the L. Rochaix part will be based on the following assignments:

- E1: An oral individual presentation of a recent technical paper related to class content (25% of final mark);
- E2: A written essay, based on this oral presentation but including comments made during the presentation (25% of final mark);
- E3: A short exam (90 minutes) on course content (50% of final mark) – January 2020.

The evaluation for the PY. Geoffard: to be confirmed



Industrial organization				
Field: <b>Regulation, Environment, Market</b>	Teacher.s: <b>Bernard CAILLAUD and Jean-Philippe TROPEANO</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

*Targeted audience:*

This course is a core course in industrial organization: it is typically chosen by students registered in the Economic Theory or Regulation, Environment and Markets research workgroups.

The topic of the course is to study markets in which perfect competition among firms is not an acceptable assumption. Considering imperfect competition models to analyse the supply side of many markets is critical in order to better describe how real-world markets function, what are their efficiency performances and how they can, or should, be disciplined or regulated.

In this perspective, anyone interested in the supply side of the economy should find fundamental and central material in this course. In particular, students interested in competition policy, in mergers and acquisitions, in innovation, in online platforms and the use of personal data, ... from a corporate point of view or from a public policy point of view, will find the course useful.

Although PSE / APE is not a business school, the course is also central for those who intend to work in the consulting sector: the various pricing and marketing strategies of firms, their strategic decisions and investments, are related to the structure of the markets in which they participate, and the course will also offer insights on firms' behavior when they try to gain or maintain market power.

Economists specialized in IO with both a solid theoretical knowledge and interest and a strong empirical background are highly valued on the academic job market. So it makes perfect sense to build a curriculum that makes you familiar with advanced theoretical tools (IO, game theory and regulation / public intervention) and empirical methods (structural econometrics and data analysis, on top of the standard M1-APE econometrics curriculum).

*The choice of topics and of approach:*

Industrial Organization is a vast domain of research that has been exploited heavily since the 70s. Many of the fundamental models used to analyse imperfect competition, differentiation, entry and strategic manipulation, mergers, vertical relationships, personalized pricing, R&D and patents, ... have been developed in the end of the XXth century. Even recent theoretical and empirical investigations on these



themes rely on these fundamental “classical” models that most of you do not know and that all of you should learn.

At the same time, fascinating new challenges have been raised for IO in the past 10-15 years and there are many new developments that echo current public debates and concerns: most of them are related to the rise of the online economy as e.g. news issues in targeted advertising, the economics of platforms, patent pools, advanced price discrimination relying on data, .... A stimulating approach to IO must necessarily spend time presenting these new issues in which research is active and promising.

The course will work on both frontlines! We will cover most of the standard theoretical models and explain their central theoretical contributions in the field, as these may be considered as reference points for whatever new developments in IO; and we will present a selection of recent and active topics, usually both from a theoretical and an empirical perspective. That said, it should be clear that we have a definite pro-theory bias and a definite bias towards the themes of our own research.

This may not be a serious limitation as there are many other IO economists at PSE and our aim is to provide a comprehensive view of the field at PSE. So, first, we will invite one or two other PSE professors to deliver parts of the course on which they are strong research contributors: P. Gagnepain on the empirical evaluation of mergers or of entry (to be confirmed later) and perhaps another faculty member on innovation. Second, our course should be viewed as the “Part 1” of a general two-semester course in Industrial Organization, Regulation and Competition Policy. The course currently denominated IO and Applications (D. Spector, S2) would then be “Part 2”, as it provides a rich collection of applications of IO to competition policy issues, building on the fundamental models that we present.

*Requirements, organization:*

The course requires some knowledge in Microeconomics as well as in Game Theory. Attendance to the course of Introduction to Industrial Organization (P. Gagnepain, M1-S2) is not a prerequisite.

The course consists in 24 sessions of 1h30 each, over 12 weeks. J.P. Tropicano will deliver the first 12 sessions, and B. Caillaud will deliver the 12 other sessions. There are no tutorials associated to this course.

The term paper requirement encourages you to be innovative. Depending on what you are interested in, a promising term paper can turn into a master thesis project. The idea is for you to think more deeply about one question or model seen in class, to figure out an interesting extension or variant or alternative formalization, to motivate why this is economically relevant, and to propose a model or an approach to answer your question, and to start developing the analysis or explaining the strategy for solving the model. Given the time you can devote to this term paper, it is probably more reasonable to think of a theoretical term paper or, at least, of the theoretical part of a model to be analysed empirically; but this is not a formal requirement. You should also have a look on all the themes that we will cover early enough so as possibly to jump ahead and start reading on a topic that will be covered near the end of the course if this topic is of special interest to you. The term paper should be about 5 page long.



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## M2 APE SYLLABUS – core courses

A basic reading list will be provided that contains roughly 1 or 2 required readings per session and a few additional readings per session to go further. There will also be more elaborate reading lists depending on the subjects for those who want to go deeper.

*Basic textbooks that will prove useful are:*

- Tirole, J., 1988, *The Theory of Industrial Organization*, MIT Press.
- Belleflamme, P. and M. Peitz, 2010, *Industrial Organization: Markets and Strategies*, Cambridge University Press.

### Evaluation:

The final grade will be based on a final exam (50% of the final grade) and a term paper (50% of the final grade).

The final exam will consist in exercises to be solved, using the standard tools used in the course, in some variation of frameworks seen in class. To help students practice and get familiar with the usual IO analysis, we provide a long list of exercises that have been given in the past as exams, homework, or simply practice exercises. You are definitely not expected to solve all these exercises.

The final exam will take place during the dedicated week in January 2022 and the term paper is due January 31st, 2022.

Information, design and market				
Field: <b>Economic Theory</b>	Teacher.s: <b>Olivier TERCIEUX and Laurent LAMY</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

Market design seeks to offer practical solutions to various resource allocation problems. The field has recently enjoyed successes in applying economics tools and insights to improve the methods for organizing professional labor markets such as those for teachers or medical interns, for assigning students to public schools, for the allocation of social housing, for exchanging kidney donors with medical incompatibilities among transplant patients, for allocating government resources such as the spectrum (the FCC auctions in US and auctions for mobile phone licenses) or the advertising slots on internet (Google and Yahoo!'s keyword auctions). The general goal of market design consists not only in analyzing markets for the assignment of these “items”, but also in designing those markets and proposing new solutions in particular ones to use new computational technologies (combinatorial auctions are used in energy markets).

The course will present the theory of market design and its applications in two parts:

1. An important constraint encountered in many real-world allocation problems is that monetary transfers are limited or unavailable; for instance, public school seats and human kidneys cannot be traded for money. The first part of this class will cover the theory of market design when no monetary transfers are allowed. We will put a particular emphasis on applications to real world problems such as the assignment of public-school seats to students, of social housing to agents, of kidney to sick patients, of teachers to schools... This strand of market design is referred to as matching.
2. The second half will cover the theory when monetary transfers are allowed. as in auctions and procurements There will be some lectures on the basic auction theory and classical results, but we will try to focus on newer material and open questions arising from applications such as search ad auctions, allocation of government resources such as radio spectrum (FCC),...

As a general goal, we will study existing or new market institutions, understand their properties, and think about whether they can be improved based on a mixture of theoretical, experimental, and empirical methods. However, the main part of the course will be oriented to the presentation of the



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## M2 APE SYLLABUS – core courses

market rules/algorithms and the fundamental theoretical results that anyone in this field should have in mind.

Evaluation:

Final exam (to be confirmed)

International macroeconomics				
Field: <b>Macroeconomics</b>	Teacher.s: <b>Matthieu BUSSIÈRE and Nuno COIMBRA</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

- Economic and Financial Crises
  - Output Dynamics in the Aftermath of Crises
  - Modeling crises; Generation I and II Models
  - Is this time different? Predicting crises
  - Contagion
- Global Imbalances
  - The Intertemporal Approach to the current Account
  - Theory and Empirics of Global Imbalances
  - Valuation Effects
  - Equilibrium Exchange Rates
- International Trade
  - Exchange Rate Pass-Through
  - Exchange Rate Elasticities, J-Curve
  - Great Trade Collapse, Trade Slowdown, protectionism
  - Exchange Rates, Productivity and Growth

Evaluation:

The final assignment for validating the course is a short note focusing on a working paper that is yet to be published in a peer reviewed journal.



International trade				
Field: <b>Globalization, trade and political economy</b>	Teacher.s: <b>Ariell RESHEF, Maria BAS, Mathieu PARENTI and Sandra PONCET</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

Four different lecturers will cover recent developments in international trade theory and empirics (from offshoring to firm heterogeneity or quality).

Evaluation:

Written exam.



Labor Economics				
Field: <b>Labor and Public Economics</b>	Teacher.s: <b>Andrew CLARK, François FONTAINE, François LANGOT and David MARGOLIS</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

This class covers both the micro and macro aspects of labor economics. David Margolis begins by reviewing and extending microeconomic models of labor demand and labor supply and discussing how policies can shift equilibrium outcomes in noncompetitive labor markets along multiple dimensions. François Fontaine will then bridge the micro and the macro levels using search and matching models and their empirical applications. François Langot addresses labor market institutions and public policies such as tax and pension reform and unemployment insurance. Lastly, Andrew Clark further discusses deviations from equilibrium and implications for policy.

Evaluation:

Written exam and a homework.

Labor economics and Social Policy				
Field: <b>Labor and Public Economics</b>	Teacher.s: <b>Eric MAURIN and Thomas BREDA</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

*1 – E. Maurin’s part overview (24 hours, taught in French): Social Interactions and Public Policy*

La première partie de ce cours avancé (Eric Maurin) est dispensée en français. Il traite des problèmes posés par l'identification empirique des effets de contexte ainsi que des difficultés à évaluer les politiques publiques en présence d'effets de contexte. Le cours s'appuie sur la présentation de nombreux travaux récents en économie de l'éducation et en économie du travail (voir le document des lectures conseillées).

*2 – T. Breda’s part (12 hours): Selected topics in Labor economics*

The second part of the class is taught in English. It reviews some key issues related to labor markets:

- theories and measures of discrimination,
- women in the labor market,
- why do wage inequalities have increased?,
- Are wages shaped by market clearing or trade unions and collective bargaining?
- (if time permits) what are the effects of the minimum wage?

A particular attention will be paid to the role of labor market institutions and social norms, and to the way they may mitigate the effect of pure market forces. If the number of students is not too large, evaluation will be based on short presentations of selected articles by groups of students.

Students need to validate both parts of the course, which will bring them 6 ECTS.

Evaluation:

If the number of students is not too large, evaluation will be based on short presentations of selected articles by groups of students.

Networks Economics				
Field: <b>Economic Theory</b>	Teacher.s: <b>Francis BLOCH, Margherita COMOLA and Gabrielle DEMANGE</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

*1 – G. Demange's part overview:*

The first part of the course introduces the basic concepts for analyzing networks: statistics, values to positions. Then it analyzes games on networks. studies models of learning and diffusion in networks, and presents the economic approaches to network formation based on game theory to model incentives to form links. The second part will present numerous applications and recent empirical works to illustrate the approach.

*2 – M. Comola and F. Bloch's parts overview:*

The aim of the second part of the course is to discuss recent topics in network economics. The course will be articulated in two blocks:

- Block A: Empirical Methods [Margherita Comola]
- Block B: Social Networks in Development Economics [Francis Bloch]

Evaluation:

The grade for Part I will be composed of several homework (1/3), attendance and participation (1/3), a written exam (1/3).

The grade for Part II will be composed of an oral presentation, in pairs (50% of the grade) and an individual referee report (50% of the grade).



Political Economy : Conflict, Institutions, media and Governance				
Field: <b>Globalization, Political Economy, Trade</b>	Teacher.s: <b>Oliver VANDEN EYNDE and Ekaterina ZHURAVSKAYA</b>	TA.s: <b>Antonela MIHO</b>	Course load: <b>36 hours</b>  Tutorial load: <b>6 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>				

Presentation:

*1 – E. Zhuravskaya's part overview:*

- Political accountability. Political institutions within countries: elections vs. appointments and term limits
- Media as an institution of political accountability. Media as an instrument of political Persuasion
- Understanding regulation and corruption
- The Value and the Cost of Political Connections
- Economic Effects of Constitutions

*2 – O. Vanden Eynde's part overview:*

This part of the course introduces students to the recent literature on conflict and economic development. The course discusses a limited set of academic articles in depth. Students are expected to read these articles before each lecture.

Evaluation:

2 home assignments containing questions and replication exercises, one for each part of the course (50% of the final grade each) and final exam (50% of the final grade).



Public Economics				
Field: <b>Labor and Public Economics</b>	Teacher.s: <b>Thomas PIKETTY, Antoine BOZIO and Julien GRENET</b>	TA.s: <b>Jeanne BOMARE</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>12 hours</b>	

Presentation:

This course is part of the common core of the M2 PPD. It is also part of the elective courses offered in the M2 year of the APE programme. Students from the APE programme should therefore enrol on this course before attending it.

The objective of this course is to present an introduction to public economics, with special emphasis on the history of taxation, public spending and state formation, normative theories of government intervention and redistribution, and the incidence of tax and transfer policies, both in developed countries and in the developing world.

There will be 36 hours of lectures, split into 12 3-hour sessions and 6 hours of tutorials.

Evaluation:

To validate the course, students are required :

- (1) to attend all lectures, and tutorials, and actively participate in class;
- (2) to submit three problem sets in the tutorials ;
- (3) to take the exam.

The exam will be based upon a good working knowledge of all the material that is presented in the lecture slides.

Quantitative macroeconomics 1				
Field: <b>Macroeconomics</b>	Teacher.s: <b>Tobias BROER and Axelle FERRIERE</b>	TA.s: <b>Eustache ELINA</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>18 hours</b>	

Presentation:

This course is a hands-on introduction to concepts, models, and computational techniques in current quantitative macroeconomics. It consists of three blocks: preliminaries in dynamic programming and numerical analysis (Block 1), representative-agent and two-agent economies (Block 2), heterogeneous-agent economies (Block 3). The first two blocks can be taken as a separate course (6 ECTS credits), but we view the whole course, including the third Block (3 ECTS credits), as compulsory for students who want to proceed to a PhD in macroeconomics.

*Course Organisation and Format:* The course consists of lectures, and TA sessions where problem sets are corrected and discussed.

*Prerequisites:* M1 Macro sequence or equivalent

Evaluation:

The course is graded based on mainly computational problem sets done in groups.



Welfare Economics and Applications				
Field: <b>Economics of Human Behavior</b>	Teacher.s: <b>Franz DIETRICH, Marc FLEURBAEY, Gregory PONTIERE, Stéphane ZUBER</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>	ECTS: <b>6</b>
Type course: <b>Core</b>			Tutorial load: <b>n/a</b>	

Presentation:

Economic analysis of allocations and policies walks on two legs: efficiency and equity. It is important that economic experts incorporate the considerations that are relevant to the users of their evaluations and do not smuggle in special views and biases in an opaque way. Witness the quarrel between Nordhaus and Stern on the discount rate for the assessment of climate change mitigation. Nordhaus accused Stern of British imperialism and “Government-house utilitarianism” and claimed that his own approach was more democratic.

In this course we present how evaluation criteria are undergoing important changes, in particular under the influence of recent theories of justice, and can now better assess the efficiency and equity components of allocations and policies. And we illustrate how this gets applied in various domains of policy and social analysis (risk, inequalities, health, income tax, well-being indicators, climate). This course is at the intersection of social choice theory, welfare economics, public economics, game theory, and political economy. This course is addressed to all students planning to work on policy topics, and also introduces to open research questions.

Evaluation:

Grading will rely on a final essay (around 5,000 words) for 70% and participation for 30%. Students are strongly encouraged to start working on the essay early in order to get feedback on drafts before the final deadline. The topic of the essay should be related to the class; it should be discussed in advance with the professors and approved by them.

## M2 APE SYLLABUS – elective courses

Coordination of expectations				
Field: <b>Macroeconomics</b>	Teacher.s: <b>Roger GUESNERIE</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

### Presentation:

#### *Coordination of Expectations: Elements for a Theory of Financial and Economic Crises*

The first lecture starts with a reminder of crises in the recent past. The introductory emphasis is put on the recent 2008 crisis. Then the course comes back on the basic references of economic theory, the static Arrow-Debreu model (the French garden) and its inter-temporal version (the British garden). The third part of the lecture. evokes the questions that the crisis raises for economics Indeed, this course will put a special attention on the issue of expectational coordination and will attempt to provide a critical assessment of the “rational expectations hypothesis” that has come to dominate theoretical economic modelling.

Lecture 2 is devoted to the issue of bubbles. It first provides an historical perspective on the most visible crises having occurred in the past, together with some results of recent experiments. Then the discussion bears on the conditions ruling out finite horizon bubbles and those allowing infinite horizon i.e. durable bubbles. The third part of the lecture provides an overview of the present explanations of temporary bubbles. Again, the questions of information transmission and of the quality of expectations come into the picture.

Lecture 3 goes further in exploring the surroundings of the “garden”. It starts with an overview of the history of money and banking and then provides a series of theoretical insights on liquidity and bankruptcy which reflect both the agency theory and the expectations formation viewpoints. The lecture goes on in the study of expectational coordination. It presents tools for an "educative" approach. The tools may derive from game theoretical premises (rationalizability), or from a simple intuition on the stability of beliefs around an equilibrium. “Educative” coordination in an "economic" context in which final agents are numerous and concerned with aggregate variables, is compared with the alternative approach of “adaptive” learning, in finite horizon contexts.

Lecture 4 gives up the park around the garden to enter metaphorically the jungle, i.e. the study of the stock market. An attempt is made to compare facts with the views drawn from the toolbox of standard



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## M2 APE SYLLABUS – elective courses

models. The complexity of actual movements requires to come back on the efficient market hypothesis and to discuss more generally expectational fragilities of financial markets.

Lecture 5 and 6 complete the picture. The beginning of lecture 5 discusses expectational coordination in infinite horizon contexts. The discussion of the Taylor rule illustrates some of the questions arising in such a framework. A series of applications involving the "eductive" viewpoint, often in comparison with the adaptive one, are provided. They concern industrial organisation, finance, trade, general equilibrium, as well as macro-economic models either of keynesian type or RBC-like. The paths for future research are presented and briefly discussed.

### Evaluation:

Report.



Decision Theory				
Field: <b>Economics of Human Behavior</b>	Teacher.s: <b>Jean-Marc TALLON</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

In this course, I will present recent advances in the field of decision theory under risk and uncertainty. The course is divided into three main parts. In the first, I review the general methodology underlying most models later developed (classical revealed preference approach) and then proceed to review the expected utility model in its various forms, as well as some of the criticisms addressed to that model. The second part is concerned with generalization of the expected utility model under risk. The third part deals with models of ambiguity that go beyond expected utility under uncertainty. Time permitting, I'll give an overview of some applications in the concluding part.

The course will be self-contained. Although I don't think it is always the optimal way of teaching, I will use slides for all the material covered, that will be made available on the PSE Teaching site. Excellent textbooks by I. Gilboa (Decision Theory under Uncertainty, Cambridge U. Press), A. Rubinstein (Lecture Notes in Microeconomic Theory) and by P. Wakker (Prospect Theory, Cambridge U. Press) cover the core decision models we will present. The Handbook of Economics of Risk and Uncertainty, Machina and Viscusi (ed) --in particular chapters 12 & 13-- also provides an excellent introduction to most of the models discussed in the course.

Evaluation:

Students will be asked to do 3 problem sets that will be marked. This will constitute 20% of the final grade.

At the end of the course, students will have to do a referee report --instructions will be given in class-- on a paper chosen among a list. This will constitute 80% of the final grade.

Econometric Methods				
Field: <b>Transversal</b>	Teacher.s: <b>Philipp KETZ</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

This course builds on and is complementary to the first-year econometrics series. While the treatment is somewhat theoretical, the focus lies with the applicability and usefulness of econometric methods. Throughout the course the theory is motivated and illustrated by means of examples.

The first part of this course treats classic asymptotic theory, including consistency and asymptotic normality results for extremum estimators. While extremum estimators include e.g., OLS, 2SLS, and Generalized Method of Moments (GMM) estimators, the exposition focuses on Maximum Likelihood (ML) estimation. Besides covering textbook examples, such as the Probit model, the course aims at providing students with the ability to model and estimate (simple) structural models using ML. In addition to standard inference methods, the course discusses bootstrap based inference.

The second part of the course treats clustering (clustered standard errors), which plays an important role in applied econometrics. After taking this course, students will be familiar with the different techniques currently available and should be able to appropriately choose among them in applications.

As part of the course, students learn to understand and use Monte Carlo simulations as a useful tool in assessing empirical/econometric methods. Homework assignments and a final project help achieving this learning goal.

Evaluation:

The final project takes the form of a short paper. The goal is to perform a Monte Carlo simulation to study a particular econometric issue/question. You may work in groups of up to three people.

The final grade is a weighted average of the final project (60%) and the three assignments (40%; equally weighted).



Economic History of Development in the colonial and postcolonial areas				
Field: <b>Economic History</b>	Teacher.s: <b>Denis COGNEAU</b>	TA.s: <b>n/a</b>	Course load: <b>24 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

The seminar discusses ongoing research efforts and new frontiers in the economic history of developing countries and the role of long-term factors in development, with also a stance on inequality and distributive justice. Methodological questions and econometric issues are given an important room.

Evaluation:

Pending.



Economic History of Labor				
Field: <b>Economic and Social History</b>	Teacher.s: <b>Mathieu ARNOUX, Jérôme BOURDIEU, Jean-Yves GRENIER and Gilles POSTEL VINAY</b>	TA.s: <b>n/a</b>	Course load: <b>24 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

This course is taught in French.

Un trait fondamental de la relation salariale : elle repose sur un rapport inégal entre celui qui vend sa force de travail (flux de service) et celui qui non seulement achète du travail, mais donne également des ordres et organise le travail (ce n'est seulement une asymétrie d'information). Rapport de subordination.

Rapport de subordination  $\neq$  relation bilatérale et symétrique entre offre et demande. Rapport social qui possède une dimension historique au sens où ce rapport de domination économique s'inscrit et se comprend comme faisant partie de l'ensemble des rapports sociaux en vigueur dans une société historique donnée.

Salariat n'est pas une spécification particulière de la relation économique mettant en jeu le travail, il est le produit d'une évolution de la société dont il est un des modes de régulation.

C'est en prenant comme fil conducteur l'alternative entre rapports de subordination et liberté de marché que nous allons tenter de construire une histoire économique du salariat.

Evaluation:

Présentation orale.

Economic policies and strategies for development in a globalized world				
Field: <b>Development</b>	Teacher.s: <b>François BOURGUIGNON</b>	TA.s: <b>n/a</b>	Course load: <b>24 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

This course covers the international aspects of contemporary economic development and poverty reduction in developing countries, including the various dimensions of globalization (trade, migration, capital movements and external financing, knowledge transfer, global public goods ...), the potential conflicts of interest between developing and developed countries, the need for global governance and the present role of international organizations.

*Practical issues:*

- The outline of the course is shown below
- Each chapter will be supported by a Power Point presentation which will be made available on the website of the course after each class.
- Readings recommended for the various chapters will be listed in the final slides of each chapter. Useful general references to several aspects of the course can be found in:
  - Debraj Ray (1998), *Development Economics*, Princeton University Press
  - A. de Janvry and E. Sadoulet (2021), *Development Economics: Theory and Practice*, Routledge, 2nd edition.

Evaluation:

Course evaluation will be based on an essay on a theme to be chosen from a list to be circulated mid-course and covering some of the topics handled in class



Economics of Well-being				
Field: <b>Labor and Public Economics</b>	Teacher.s: <b>Claudia SENIK and Andrew CLARK</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

The research field of subjective well-being (SWB) has recently experienced remarkable growth, largely centered on the statistical analysis of large-scale representative surveys (often panel data) including subjective evaluations such as self-reported life or job satisfaction, or other measures of mental well-being. Further, SWB is one of the perhaps rare subjects that have inspired research across a variety of social science disciplines, with key contributions in Economics, Psychology, Political Science and Sociology.

Using subjective variables can help address various policy questions for which standard methods of analysis have not sufficed to provide unambiguous results. Income distribution, income comparisons and other types of social interactions and preference interdependence are clearly the types of phenomena for which the usual method of revealed preferences is unhelpful, and for which the recourse to subjective data can be useful.

One of the core motivations of the subjective well-being literature is the famous “Easterlin paradox” that the average self-declared happiness does not increase during periods of sustained income growth (in post-war Japan, for instance, as well as in many OECD countries), even though the cross-section relationship between income and subjective well-being is positive. Hence, “raising the incomes of all will not increase the happiness of all” (Easterlin, 1974). Two common explanations of this paradox are income comparisons and adaptation, both of which reduce or eliminate the welfare benefits of income growth.

This course presents this new literature and how it has shed light on the issue of income inequality, income comparisons and the need for public interventions aimed at correcting these gaps. The main questions addressed by this literature are: the measurement of well-being, evidence for comparisons and adaptation, and the degree and type of income inequality that are desired by the population, and for which reasons.

The question of income comparisons and income inequality has arguably become increasingly relevant, with the rise in income inequality, including wage inequality, in the countries of the OECD, starting in the 1980s (Atkinson and Piketty, 2007). On the other hand, the weight of government transfers for income redistribution has doubled in developed countries since the 1960s (Alesina and La Ferrara, 2005). Given the importance of income inequality and of policies aimed at reducing it, it is



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important that for economic research to provide information about the subjective perception of these phenomena.

Accordingly, the course will address the following points:

- The Measurement of well-being
- Income growth and subjective well-being
- Income comparisons and subjective well-being
- Adaptation, expectations and subjective well-being
- Income inequality, SWB and the demand for income redistribution
- The cultural dimension of subjective well-being.

Evaluation:

Oral presentations.



Empirical Industrial Organization				
Field: <b>Regulation, Environment, Market</b>	Teacher.s: <b>Angelo SECCHI</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

Modern economies are characterized by ubiquitous, large and persistent forms of heterogeneity in any dimensions of business firms' characteristics and of their dynamics. The primary scope of this course is to present an overview of the empirical investigations on the nature and on the evolution of such a rich landscape underlying industrial structures with a specific emphasis on developed economies. Simple stylized models able to generate the observed features of industrial dynamics are also presented and critically reviewed.

Evaluation:

There will be a written and closed book exam. Grade range is 0-20, the French standard. Knowledge of master level microeconomic theory, industrial organization and applied econometrics is expected.



Environmental Policy				
Field: <b>Regulation, Environment, Market</b>	Teacher.s: <b>Mouez FODHA and Katrin MILLOCK</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

The course "The economics of environmental policy" will cover a selection of issues on the economic analysis of environmental policy, all of recent scientific activity and policy relevance. It will introduce you to some of the seminal models in the literature as well as to current research on the issues.

At each class, students (group of two) will have to present a research paper that will be given to them the week before. Each group will have to make an oral presentation of about 20mn, with a support (slides, pdf format) which will have to be sent to M. Fodha and K. Millock the day before the presentation (Monday evening).

Evaluation:

The final grade will be based on a presentation of an article in class and a written referee report of an article, both based on articles designated by the instructors.

Active participation is expected during the course. In order to favor active class participation, each week's class will have a student making a 20 min presentation of a paper assigned by the instructor one week earlier.



Experimental Economics				
Field: <b>Economics of Human Behavior</b>	Teacher.s: <b>Nicolas JACQUEMET</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

The course provides an overview of the use of laboratory experiments as an empirical method to investigate research questions in economics and social sciences. The focus is methodological, and illustrated based on examples and applications taken from the literature.

Evaluation:

Students work in groups of 2 or 3. They must hand-in a research paper at the end of the session, in which a motivated research question is to be answered based on an experiment. The design of the experiment must be described and discussed much carefully.



Experiments in Political Economy // Political Economy in the Lab				
Field: <b>Economics of Human Behavior</b>	Teacher.s: <b>Alessandra CASELLA</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

Pending.

Evaluation:

Pending.



Financial and Monetary Macroeconomics				
Field: <b>Macroeconomics</b>	Teacher.s: <b>Jean-Bernard CHATELAIN</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

This course develops opposite theoretical frameworks modelling policy-maker's decisions based either on negative feedback (commitment) or on positive feedback (discretion, simple rule) for monetary, fiscal and financial stabilization policy. These theoretical frameworks are also based on opposite monetary policy transmission channels, either on the intertemporal substitution effect of the interest rate or on the channel of the cost of capital possibly including the credit channel. These theoretical frameworks are evaluated with respect to five criteria: time-consistency and credibility, multiple equilibria versus determinacy, the identification of structural parameters, their fit with US pre-Volcker and Volcker-Greenspan Fed's monetary policy since 1960, and their robustness to misspecification. The course analyzes the gaps between the mechanisms of the new- Keynesian dynamic stochastic general equilibrium models and the policy-makers' statements on their stabilization policy.

*Requirements:*

The course is in large part problem solving with exercises. The final grade will be based on a written exam very similar to problem sets of the course (3/4 of the grade, 2 hours, around 50 questions) and vector auto-regressive homework (1/4 of the grade)

Evaluation:

The final grade will be based on a written exam very similar to problem sets of the course (3/4 of the grade, 2 hours, around 50 questions) and vector auto-regressive homework (1/4 of the grade).



Foreign Investment				
Field: <b>Globalization, Political Economy, Trade</b> Type course: <b>Elective</b>	Teacher.s: <b>Ariell RESHEF and Mathieu PARENTI</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>  Tutorial load: <b>n/a</b>	ECTS: <b>3</b>

Presentation:

This course focuses on multinational firms in the global economy: why they arise, their pattern of activity, and consequences for domestic economies. Part of the discussion will treat the effect of international outsourcing (“offshoring”) on the organization of production and on income distribution. Closely related “global value chains” will also be addressed.

Evaluation:

Essay.



From statistical physics to social sciences: an outline				
Field: <b>Transversal</b>	Teacher.s: <b>Jean-Philippe BOUCHAUD</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

- I. Mild fluctuations vs. Wild fluctuations
- II. Multiplicative models for population, wealth, ...
- III. Branching processes, Networks, Avalanches
- IV. Interactions, instabilities & collective effects
- V. Multivariate statistics and large dimension problems
- VI. The Dynamics of Financial Markets

Evaluation:

The evaluation will be under the form of a written exam of 2h30.

General Equilibrium Theory				
Field: <b>Economic Theory</b>	Teacher.s: <b>Elena DEL MERCATO and Jean-Marc BONNISSEAU</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

*General Presentation:*

The general equilibrium theory studies the interactions among heterogeneous agents on commodity and financial markets. The course begins with an outline of the main properties of a competitive equilibrium in the classical Arrow-Debreu model (existence, efficiency, local uniqueness). The course then focuses on advanced questions arising from market imperfections and financial markets, such as externalities, increasing returns to scale and incomplete financial markets.

Notice that this is a S2 elective course (18 hours) that takes place during the first semester S1. M2 APE students can choose only one of the two parts described below: "General equilibrium and Externalities" or "General equilibrium and Financial Markets".

*1 – E. del Mercato's part overview: "General equilibrium and Externalities"*

- An overview of general equilibrium theory; main results.
- Competitive equilibrium with externalities; basic results.
- Externalities and market failure; perfect internalization, Pareto improving policies.
- Externalities in production economies; increasing returns to scale; marginal pricing rules.

Duration: 18 hours.

*2 – J-M. Bonnisseau's part overview: "General equilibrium and Financial Markets"*

- The two period economy with uncertainty; risk aversion
- Arrow securities, financial markets; real, nominal and numeraire assets
- Absence of arbitrage opportunities, existence of present value vector, uniqueness, risk neutral probability
- Completeness of the financial structure
- Existence of a financial equilibrium for nominal and numeraire asset; generic existence for real assets



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- Behaviour of the firms and incomplete markets

Duration: 18 hours.

### Evaluation:

EDM : attendance, homeworks, presentation of selected research articles and/or written exam

JMB : attendance & presentation of selected research articles and/or written exam



Historical Demography				
Field: <b>Economic and Social History</b>	Teacher.s: <b>Lionel KESZTENBAUM</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

This course deals with the relationship between population and economic development. It will present the basic concepts of demography and illustrate them by the most recent works in historical demography and economic history. The aim is to give a broad perspective on the industrial revolution and the subsequent emergence of the modern economy but also to discuss how this historical analysis may help to understand present issues in population studies. We will tackle two sets of problems. First, the industrial revolution occurred simultaneously with huge population changes, in both quantitative and qualitative ways. We will explore how these changes—reduction in mortality, changes in the size and shape of the body, lower birth rate, population aging, and so on—contributed, or not, to economic growth. Second, changes in the economic environment—not only increases in income or wealth but also changes of institutions, urbanization, inequality—have themselves important consequences on population living conditions. Looking at both ways of the relationship, we will address the larger question of the role of different actors—markets, the state, individuals, and families—on economic development in the long run.

Evaluation:

The evaluation of the course will rely upon a 4000 word-essay in the general area of applied demography (preferably, but not necessarily, historical demography).



Industrial organization and applications to antitrust and regulations				
Field: <b>Regulation, Environment, Market</b>	Teacher.s: <b>David SPECTOR</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

This class is a sequel to the Industrial Organization class taught in S1 by B. Caillaud and J.-P. Tropeano, but it has a different balance between theory and applications, with more emphasis on the application of theory to competition policy. In fact, one could almost put it the other way around, since many of the theoretical models taught in this class were developed to address issues raised by competition authorities in recent cases. The reading list also includes a few articles by legal scholars in order to provide context and show how students and practitioners of competition law make use of economic theory.

The class will focus on three broad topics: exclusionary strategies, how firms collude (with a focus on information exchanges and 'hub-and-spoke') and new theories of harm for mergers. Each class will blend a presentation of the main models and a discussion of decisions by competition authorities (for the most part, the European Commission).

Evaluation:

Grading will be based on student presentations that will be assigned during the first class. I expect the first student presentations to take place during the fourth class. The earliest presentations will benefit from more lenient grading to account for the more limited time.



Intertemporal choice under uncertainty				
Field: <b>Economics of Human Behavior</b>	Teacher.s: <b>Luc ARRONDEL and Andre MASSON</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

This course will be taught in French.

Microéconomie des arbitrages intertemporels et intergénérationnels des ménages :

- Développements récents de la théorie du cycle de vie, l'épargne et patrimoine, comportements à l'égard du risque (choix de portefeuille, gestion multirisques), comportements à l'égard du temps (préférence pour le présent, incohérence temporelle), rationalité de l'épargnant ;
- Modèles de transmission des héritages (altruisme et réciprocity indirectes) ; taxation des héritages ;
- Retraites et protection sociale, interaction entre solidarités publiques et privées, en particulier dans leur dimension intergénérationnelle, pensées et modèles de l'État-providence.

Evaluation:

Presentations.



Introduction to Economic History				
Field: <b>Economic History</b>	Teacher.s: <b>Thomas PIKETTY</b>	TA.s: <b>n/a</b>	Course load: <b>24 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

The objective of this course is to present an introduction to economic history, with special emphasis on the interaction between capital accumulation, the global distribution of income and wealth, and growth.

Evaluation:

To validate the course, students are required to attend and actively participate to all lectures; to take the exam.

Machine learning in economics				
Field: <b>Transversal</b>	Teacher.s: <b>Hannah BULL and Philipp KETZ</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

The course provides an introduction to modern machine learning techniques, with a focus on applications in economics. The course can be broken down in three parts. First, we introduce some of the most popular machine learning techniques and discuss their use and advantage in prediction exercises (Part 1). Then, we discuss two recent applications of machine learning in (micro-)econom(etr)ics, where the goal lies with estimating causal effects. The first application concerns estimation of average treatment effects in the presence of many control variables (Part 2). The second application concerns estimation of heterogeneity in average treatment effects (Part 3).

The statistical/econometric theory of each part is covered in a lecture and a corresponding lab session (in the subsequent week) covers the practical side of it, going through implementation details in R. The evaluation is based on homework assignments and a final project.

Evaluation:

Homework assignments and a final project.



Migration				
Field: <b>Globalization, Political Economy, Trade</b> Type course: <b>Elective</b>	Teacher.s: <b>Hillel RAPOPORT</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>  Tutorial load: <b>n/a</b>	ECTS: <b>3</b>

Presentation:

The share of foreign born has grown from 5 to 12 percent on average in OECD countries and the recent refugee crisis is adding to those numbers. As a result, immigration has become a major issue in the public debate. The goal of the course will be to study the political economy of immigration. This includes the analysis of the labor market effects of immigration and the contribution of immigrants to the public budget. This also includes the broader role of immigration and diversity in determining economic performance, and the way migration affects political outcomes in receiving and sending countries.

The course is organized around a list of required readings. Students must prepare for the class by reading the required articles ahead of the class.

Evaluation:

Grading scheme: 50% group presentation (Part 1, H. Rapoport), 50% written exam (Part 2, B. Speciale).

Monetary and Financial History				
Field: <b>Economic and Social History</b>	Teacher.s: <b>Pierre-Cyrille HAUTCOEUR and Eric MONNET</b>	TA.s: <b>n/a</b>	Course load: <b>24 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

This class aims at introducing to the history of money, banking and finance both at the micro and macroeconomic levels. It will present the development of monetary and financial instruments and institutions from early modern period, focusing mostly on the 19th and 20th century. It will emphasize both the need to properly understand a particular historical context in its socio-historical depth and the usefulness of economic theory and statistics when trying to understand what happened then.

For each session, students have to read one of the two articles that complement the previous session, and to write a short note on it (less than one page) highlighting criticisms and questions. This will help starting the discussion during the class.

These short notes are not graded. This is pass or fail. If you miss more than 1, you will get 5 points subtracted from the final grade of the course.

Each session starts by a discussion of two required readings. The professors introduce the articles and ask questions that students are invited to answer online through audio interventions or in the chat. Students also ask their own questions on the articles during the general discussion.

The second half of the session is devoted to a formal lecture by the two professors.

The required readings for the next session will be based on this lecture. It means that students read papers on a specific topic after having attended an introductory lecture on this topic in the previous course. This is intended to facilitate reading and online discussion.

For example, the lecture of the 1st session is on medieval commodity money and students are asked to read two papers on commodity money for the 2nd session (by Von Glahn and Pamuk). The 2nd session will start by a discussion of these two papers.

Thus, the first session is an exception: students are asked to read two papers (Redish and Gorton) without any introductory lecture.

These two papers are accessible and do not require previous knowledge of financial history. Furthermore, these two papers are good introductions to the course.

The slides of the lecture and required readings are available before each session on the website of the course.

Evaluation:

For the final grade, students will be asked to summarize and discuss in length two of those required readings papers (either the two of the same course sessions, or two chosen in different sessions), using in particular the discussions that took place in class (3-4 pages per paper).



Population Policy				
Field: <b>Globalization, Political Economy, Trade</b> Type course: <b>Elective</b>	Teacher.s: <b>Carole BONNET, Anne SOLAZ and Laurent TOULEMON</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>  Tutorial load: <b>n/a</b>	ECTS: <b>3</b>

Presentation:

Demography and family economics are the core of the Population and policies course. The course is thus highly recommended for students wishing to specialize in population studies, or to open their minds to another field. Fertility, marriage, divorce, early childhood inequalities are more and more studied in economics.

There is no formal prerequisite.

The course aims to present the basic tools of demographic in several domains. This class covers the micro aspects of family economics and public policies in the domain of population studies, mostly on developed countries. Based on both theoretical and empirical literature, we pay attention to the determinants and the consequences of demographic behaviors with a special focus on the role of public policies and gender inequalities. Some typical questions will be raised: How do social policies affect family formation and childbearing? How do partners allocate their time to paid and unpaid work? How does family breakup affect the well-being of adults and children? How can governments improve the sustainability of pension systems, in a context of an ageing population? How do pension reforms may influence behaviors and inequalities within the population?

The population and policies course is organized in 9 thematic lectures of 2 hours. After a first introductory lesson on pure demographic aspects, the eight following ones focus on one specific moment of the life-cycle. Each session discusses that topic in length. It aims at presenting the demographic indicators, the main related economic theories, with a presentation of some recent policy evaluation papers.

Evaluation:

To validate the course, students are required (1) to attend and actively participate to all lectures; (2) to perform a summary of one article of one of the eight topics and a critical report of an article on another topic. Depending on the number of students, the summary exercise could be a short oral presentation during the lesson.



Quantitative macroeconomics 2				
Field: <b>Macroeconomics</b>	Teacher.s: <b>Axelle FERRIERE</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

Pending.

Evaluation:

Pending.



Social Interactions				
Field: <b>Globalization, Political Economy, Trade</b> Type course: <b>Elective</b>	Teacher.s: <b>Thierry VERDIER</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>  Tutorial load: <b>n/a</b>	ECTS: <b>3</b>

Presentation:

So called « non-economic » aspects like social interactions, trust, solidarity, cultural and social norms become increasingly acknowledged in various important economic and social policy areas like crime, ethnic conflict, gender, the Welfare state and economic development, This course applies the tools of microeconomic analysis and other fields (sociobiology, evolutionary anthropology and socio-psychology) to such issues, emphasizing the role of endogenous preferences, social norms and social interactions. The course is intended for PhD and Master students, but well-prepared and motivated last year undergraduate students may also take it with permission of the professor.

Evaluation:

Report.



Taxation				
Field: <b>Labor and Public Economics</b>	Teacher.s: <b>Stéphane GAUTHIER</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

The course presents the basic tools (indexed by B) in the field of the economics of taxation, as well as more advanced material (indexed by A). The main textbook used is Salanié, B., The Economics of Taxation, MIT Press.

Evaluation:

Oral exam.



The Theory of Incentives				
Field: <b>Regulation, Environment, Market</b>	Teacher.s: <b>David MARTIMORT</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

- Incentive Theory in Retrospect
- Key Results in Social Choice

Evaluation:

Report.



Theories of Collective Choice				
Field: <b>Economic Theory</b>	Teacher.s: <b>Jean-François LASLIER and Antonin MACÉ</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

In democracies, decisions are taken collectively, either directly or through delegation. The role of political institutions is to aggregate potentially divergent opinions and preferences into common decisions. This course is an introduction to the economic approach of collective decision making, both from the normative point of view of the theory of social choice, and from the positive point of view of game theory.

Using formal theory and empirical knowledge, we present some of the major results on the working of political institutions, in particular the behavior of voters and political parties. We then consider their impact on several important policy dimensions (taxation, redistribution, the size of the government etc.), and on the comparative study of political systems.

Evaluation:

Depending on the number of registered students, the grade for this course will be based either on a written exam or on the oral presentation of an article.



Topics in Exchanges				
Field: <b>Economic Theory</b>	Teacher.s: <b>Gabrielle DEMANGE</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

The objective of this course is to analyze the design and functioning of various venues of exchanges. We will focus on complex exchanges in which most participants are professional traders such as firms, traders, and intermediaries. Examples include the markets for financial products, carbon permits, and electricity.

Understanding how the rules (or their absence) governing these exchanges impact participants' behaviors is crucial to assess the efficiency and stability of these markets and to design robust regulatory tools. Our approach is based on economic modelling and empirical works.

Evaluation:

Essay or presentation.



Topics in Game Theory				
Field: <b>Economic Theory</b>	Teacher.s: <b>Frederic KOESSLER</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

In this course we review central models, tools, and solution concepts of non-cooperative game theory. The course first covers fundamentals of non-cooperative game theory by studying basic and more advanced results for static games with complete information (strategic-form games), static games with incomplete information (Bayesian games), and dynamic games (extensive-form games). Then, we study more specific research developments in communication games, games with commitment, Bayesian persuasion and information design.

*Prerequisites:* Expected utility theory, basic probability theory, Bayes' rule, basic notions of game theory (strategic-form and extensive form games, strategies and mixed strategies).

Evaluation:

- Homework between each class: exercices + some questions about the content of the course; 1/2 of final grade; homework can be done in groups of up to 3 students;
- Group (of 2 to 4 students) online presentation (15-20 minutes) of a research article from a reading list + written report on the article (2-4 pages): 1/2 of the final grade. The presentation should present a brief personal summary of the main features and results of the paper and identify its contributions. Ideally, the oral presentation focus on a simplified version of the model (or an example) that allows to highlight the main insights of the article. The report should discuss the relevance of the results. It should also discuss alternative ways to approach the problem, deficiencies of the model, or possible extensions.

Topics in Insurance Economics				
Field: <b>Regulation, environments and markets</b>	Teacher.s: <b>Catherine BOBTCHEFF</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

The objective of this course is to provide an understanding of insurance markets. A reminder on choice under uncertainty will be proposed at the beginning of the class. The basic principles that drive insurance economics (demand and supply for insurance) will be analyzed. Then, information asymmetries (adverse selection and moral hazard) will be introduced and we will analyze how they affect both insurance products and insurance markets. A special focus will be proposed on the acquisition of endogenous information by both policyholders and insurers as well as to the question of the insurance of systemic risks (such as pandemic risk, climate risk, ...)

This class will be theoretically oriented.

Evaluation:

- Mid-term written exam (1hour, without document, during the lecture): grade M
- Final written exam (2 hours, without document): grade F
- Final grade:  $\max(F, 2/3 F + 1/3 M)$ .



Topics in Macroeconomics // Macroeconomics & Globalization				
Field: <b>Macroeconomics</b>	Teacher.s: <b>Patrick ARTUS</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

*1 – Monetary policy's part overview: contemporary theory*

- Introduction: the traditional monetary policy models (Barro, Gordon, etc.)
- Chapter 1: Transparency
- Chapter 2: Uncertainty Chapter
- Chapter 3: Deflation Chapter
- Chapter 4: Asset prices
- Chapter 5: Delegation of objectives and externalities
- Chapter 6: Fiscal policy and monetary policy

Prerequisite: knowledge of macroeconomics at the bachelor's level (for example Blanchard, Cohen).

*2 – The choice of exchange rate regime's part overview:*

- Chapter 1: Intermediate exchange rate regimes are unstable
- Chapter 2: The choice of exchange rate regime when only monetary policy is taken into account
- Chapter 3: The choice of exchange rate regime when fiscal policy is taken into account
- Chapter 4: Impossible trinity, capital control Chapter 5: Are currency boards an efficient regime?
- Chapter 6: Local currency debt - foreign currency debt (original sin)

Prerequisite: knowledge of international economics e.g. a bachelor's degree (for example Krugman, Obstfeld).

Evaluation:

Final exam or report.

Trade Policy				
Field: <b>Globalization, Political Economy, Trade</b> Type course: <b>Elective</b>	Teacher.s: <b>Anne-Celia DISDIER and Cecilia BELLORA</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>  Tutorial load: <b>n/a</b>	ECTS: <b>3</b>

Presentation:

This course covers the empirics of trade policy, closely linked to the underlying theory, through two different lenses:

- Ex-post evaluation of past and current trade policies through econometric estimations.
- Ex-ante evaluation of the impacts of current or future trade policies through applied general equilibrium.

To do so, the course mixes lectures and computer-based exercises.

The course provides students with a standard toolkit in the field (effects of trade liberalisation and transfers; direct and indirect measurement of protection; CGE modelling...).

Evaluation:

The course is evaluated by a group project (1-2 students working on a project either proposed by themselves or chose in a list of proposals).



Urban Economics				
Field: <b>Labor and Public Economics</b>	Teacher.s: <b>Laurent GOBILLON</b>	TA.s: <b>n/a</b>	Course load: <b>18 hours</b>	ECTS: <b>3</b>
Type course: <b>Elective</b>			Tutorial load: <b>n/a</b>	

Presentation:

Population, income and economic activity are distributed unevenly across and within cities.

The purpose of this course is to analyze agglomeration and dispersion forces, urban land use and segregation. A particular attention will be paid to spatial equilibrium mechanisms involving households, firms and amenities. Urban policies meant to develop deprived areas and help the poor living in cities will also be studied.

Evaluation:

Essay based on an article not presented in class (which will involve a critical reading and a research project).

## M2 APE SYLLABUS – Master thesis

Master Thesis				
Type course: <b>Common</b>	Supervisor.s: <b>Must be a member of PSE</b>	TA.s: <b>n/a</b>	Course load: <b>n/a</b>  Tutorial load: <b>n/a</b>	ECTS: <b>15</b>

### Presentation:

The M2 master's thesis is carried out under the supervision of a research supervisor.

Students are encouraged to contact an instructor working on topics of interest to the student and to discuss possible dissertation topics. Every year, instructors also propose topics that students may wish to write on.

The final choice of a master's dissertation supervisor must take place, at the latest, in January of the M2 year. A master's dissertation proposal (3 pages maximum), approved and signed by a research supervisor, must be submitted to the program's administration at the end of December.

All APE instructors and PSE members can serve as research supervisors for the master's dissertation. If your subject justifies it and with the approval of the director of the program, you may choose a supervisor from outside the program. In this case the rapporteur (referee) that you will chose for the defense must be a teacher from the APE course.

### Evaluation:

The master's dissertation is graded on a scale of 0 to 20. The defense lasts roughly 45-60 minutes before a jury composed of the master's dissertation and a rapporteur. After the defense, the defense jury proposes a grade for the dissertation that is transmitted to the master's office. However, the final grade is attributed and validated ONLY by the end of the year jury on the basis of the grade proposed by the defense jury, the dissertation, and, for grades of 16 and higher, the jury report.



## M2 APE SYLLABUS – research seminars

Behavioral Economics				
Type course: <b>Research seminar</b>	Teacher.s: <b>Andrew CLARK (coord.) and Fabrice ÉTILÉ</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>  Tutorial load: <b>n/a</b>	ECTS: <b>6</b>

Development				
Type course: <b>Research seminar</b>	Teacher.s: <b>Liam WREN LEWIS (coord.) and Jérémie GIGNOUX</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>  Tutorial load: <b>n/a</b>	ECTS: <b>6</b>

Economic History				
Type course: <b>Research seminar</b>	Teacher.s: <b>Jérôme BOURDIEU (coord.) and Eric MONNET</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>  Tutorial load: <b>n/a</b>	ECTS: <b>6</b>

Economic Theory				
Type course: <b>Research seminar</b>	Teacher.s: <b>Catherine BOBTCHIEFF, Bernard CAILLAUD and Olivier TERCIEUX</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>  Tutorial load: <b>n/a</b>	ECTS: <b>6</b>



Macroeconomics				
Type course: <b>Research seminar</b>	Teacher.s: <b>Tobias BROER and Gilles SAINT-PAUL</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>  Tutorial load: <b>n/a</b>	ECTS: <b>6</b>

Public Economics and Labor				
Type course: <b>Research seminar</b>	Teacher.s: <b>Thomas BRED (coord.), Francois FONTAINE, Clément MALGOUYRES and Camille HEMET</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>  Tutorial load: <b>n/a</b>	ECTS: <b>6</b>

Regulation, Environment and Markets				
Type course: <b>Research seminar</b>	Teacher.s: <b>Philippe GAGNEPAIN, Stéphane GAUTHIER and Katrin MILLOCK</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>  Tutorial load: <b>n/a</b>	ECTS: <b>6</b>

Trade and Political Economy				
Type course: <b>Research seminar</b>	Teacher.s: <b>Emeline BEZIN, Sandra PONCET, Hillel RAPOPORT and Ekaterina ZHURAVSKAYA</b>	TA.s: <b>n/a</b>	Course load: <b>36 hours</b>  Tutorial load: <b>n/a</b>	ECTS: <b>6</b>