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- Economic History

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- The Theory of Incentives
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M1 APE - Master’s Program: Detailed Curriculum

The M1 year aims to reinforce fundamental knowledge and basic methodological tools in microeconomics (a sequence of two courses, plus a course in games theory), econometrics (a sequence of three courses), macroeconomics (two courses, plus a course in international economics), and in economic history. This year involves taking and passing ten obligatory courses, one of six elective courses in a specific field of economics, and a seminar in the social sciences, taken in another department of one of the partner establishments. All classes are compulsory and taught in English. Attendance is compulsory.

**COMPULSORY COURSES – SEMESTER 1:**

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<th>Course Load: 24H</th>
<th>Tutorial Load: 18H</th>
<th>ECTS: 5</th>
<th>Tutorial Teacher: R. YIN</th>
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<tbody>
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<td>Prof. N. Jacquemet</td>
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**PRESENTATION:**

Prerequisites:
Probability and statistics, linear algebra
Finite sample properties of OLS / Testing under the normality assumption.

Outline:
- 1. Introduction. What econometrics is about / The inference problem / Reminder of finite sample OLS properties.
- 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

**Course Load:** 24h  **Tutor Load:** 18h  **ECTS:** 5

**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

**Course Load:** 24h  **Tutor Load:** 18h  **ECTS:** 5

**Presentation:** The course is in two parts: International Trade (T. Verdier) & International Macroeconomics (J. Imbs).

**International Trade’s part overview:**
1. The welfare gains from trade and comparative advantage
2. Ricardian model of trade
3. Heckscher-Ohlin Theory
4. Economies of scale and monopolistic competition
5. Trade policy
6. Political economy of trade policy

**International Macroeconomics’s part overview:**
- Chapter 1: Some national accounting:
  - current account, balance of payments, external wealth of nations
EVALUATION: 50%+50% IM+IT, 10% presence/participation, 40% midterm, 50% exam

MACROECONOMICS 1

COURSE LOAD: 36h  TUTORIAL LOAD: 24h  ECTS: 6

PROF F. CORICELLI & J.O. HAIRAUT

TUTORIAL TEACHER: S. BOCK

PRESENTATION: This course introduces concepts and tools used in macroeconomic analysis: the theory, measurement, and determination of national income; fiscal policy, budget deficits, and the national debt; aggregate supply and aggregate demand; money, banking, and monetary policy; exchange rates and balance of payments accounts; and stabilization policy for unemployment and inflation. The course objective is to provide training in the principles of macroeconomics to enable students to analyse problems in the key areas using appropriate tools. The course aims to develop an understanding of these principles using graphical and simple mathematical techniques. In addition to developing the theoretical principles, a special attention will be devoted to provide empirical and institutional data for France and other major economies.

EVALUATION: 50% Midterm, 50% Final exam

MICROECONOMICS 1

COURSE LOAD: 36h  TUTORIAL LOAD: 24h  ECTS: 6

PROF. S. GAUTHIER & P.Y. GEOFFARD

TUTORIAL TEACHER: M. LEDUC

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

COURSE LOAD: 8h  TUTORIAL LOAD: N/A  ECTS: N/A

PROF. H. BULL

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

MATHS. AND STATS. FOR ECONOMIC ANALYSIS

COURSE LOAD: 24h  TUTORIAL LOAD: 12h  ECTS: N/A

PROF. J. GIGNOUX

TUTORIAL TEACHER: A. FABRE

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 proves necessary for subsequent courses in Econometrics and economic analysis. The course has two parts: the three first lectures are devoted to Statistics and the five following to Mathematics. 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). The Mathematical 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 course is taught primarily for students who do not have a strong background in quantitative methods.

**COMPULSORY COURSES – SEMESTER 2:**

<table>
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<th>ECTS</th>
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<tbody>
<tr>
<td><strong>ECONOMETRICS 2</strong></td>
<td>36H</td>
<td>24H</td>
<td>6</td>
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<tr>
<td>PROF. M. BENSalem &amp; C. Doz</td>
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<tr>
<td><strong>TUTORIAL Teacher:</strong> T. Despois</td>
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**PRESENTATION:**
This course is devoted to stationary time series analysis. The main problems which can be encountered in econometric modeling 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 modeling with macroeconomic time series: general issues concerning autocorrelation and 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.

**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**

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<th>Course</th>
<th>Course Load</th>
<th>Tutorial Load</th>
<th>ECTS</th>
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<tbody>
<tr>
<td>PROF. L. BEHAGHEL &amp; P. KETZ</td>
<td>36H</td>
<td>24H</td>
<td>6</td>
</tr>
<tr>
<td><strong>TUTORIAL Teacher:</strong> F. PINTO</td>
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**PRESENTATION:**
The course covers four broad topics.

After a summary of the traditional approach to causality in cross-sectional linear models (lecture 1), lectures 2-5 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 difference-in-difference methods and introduce basic linear...
EVALUATION: panel models, in which variations in the data are both cross-sectional and longitudinal.

Lectures 6 and 7 further analyze 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 5). 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 6). A second advantage of panel data is to allow the modelling of dynamics: in lecture 7, we present dynamic linear panel models frequently used to that end. We conclude with synthetic controls (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: 40% final exam (about equally split between lectures 1-8 and 9-12), 20% mid-term exams (on lectures 1-7), 30% randomly chosen questions from (at least two) problem sets, 10% class participation
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 provides an introduction to mechanism design, with applications to auctions and public good provision.

The third and last part adopts the point of view of a policy maker engaged in the design and implementation of collective decisions. The course reviews social choice theory, in particular the possibility of deriving the objectives of the policy maker as an aggregation of the preferences of the agents. Classical impossibility theorems are studied (Arrow, Gibbard-Satterthwaite) and positive results are discussed, e.g. in the context of voting. Finally, since the policy maker rarely knows individuals’ preferences, the theory of implementation is presented, making the link with the previous part on mechanism design.

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 a midterm exam (30%), a grade for the final 3h exam (50%)

Students are asked to choose 1 seminar among the courses list of the EHESS/P1/ENS. The 3-credit seminar must be taken in another field than Economics (Sociology, History, Anthropology, etc.) within the wide set of courses offered in other EHESS/P1/ENS Masters programs.

EHESS seminars list: [https://www.ehess.fr/fr/séminaires](https://www.ehess.fr/fr/séminaires)

The grades must be collected by the students and sent to the Program secretariat no later than the 10th of June.
OPTIONAL COURSES – SEMESTER 2:

Demographic Economics  
**Course Load: 18h**  
ECTS: 3  
Prof. L. Toulemon

**Presentation:** Population Economics is devoted to the search for causes and consequences of demographic behaviour. First, how can we explain fertility, mortality, nuptiality and migration behaviours? What are the main drivers of population heterogeneity? At the population level, how can we link population trends and economics, in both theoretical and empirical terms? Second, demographic behaviours have direct effects on population size and age-structure. What are the implications of current changes, given that population growth and ageing are often considered to be among the most dramatic changes occurring at world level, with large discrepancies between countries and continents? Demographic analysis is based on a specific approach and applies a set of technical tools which allow us to assess the external validity of economic results. The course will thus provide an introduction to demographic analysis and its usefulness for Population Economics.

**EVALUATION:** The assessment is based on continuous examination (homework by groups of students) and a final (2hour) examination, 50%-50%.

Development Economics  
**Course Load: 18h**  
ECTS: 3  
Prof. D. Cogneau, S. Lambert & O. Vanden Eynde

**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:

- What is development
- History of development
- Poor Economics
- Agriculture
- Democracy
- Infrastructure and service provision.

**EVALUATION:** Written exam (3 hours – Short questions from each session)

Industrial Organization  
**Course Load: 18h**  
ECTS: 3  
Prof. P. Gagnepain

**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:**

To be confirmed

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### Labor Economics

**COURSE LOAD:** 18h  
**ECTS:** 3  
**PROFS:** T. Breda & F. Fontaine

**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.

**Plan of the course:**

**PART 1**

1) Wage inequalities  
2) Taxation and labor supply  
3) Unions and collective bargaining  
4) Discrimination in the labor market  
5) Gender inequalities in the labor market

**PART 2**

1) Modeling labor market imperfections  
2) The role of the unemployment insurance  
3) Does employment protection increase unemployment?

**EVALUATION:** A report and a presentation

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### Macroeconomics Policies

**COURSE LOAD:** 18h  
**ECTS:** 3  
**PROF:** A. Benassy-Quere

**PRESENTATION:** The aim of the Economic policy course is to teach how to identify the relevant theoretical and economic knowledge for a given 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 4 policy areas: fiscal, monetary, financial, and tax policy.

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.

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**Presentation:** The course is organized around a specific topic and is designed to introduce students to research in public economics. It requires active participation of the students involving presentations of (parts of) reference and more recent research papers about the topic chosen for the current year. Every student has to read the paper discussed during the lecture. One will present the paper while the others prepare criticisms to the paper. Slides are allowed but they will be not projected. Paper discussion is made during half of the lecture. During the other half of the lecture the teacher will either discuss special points associated with the topic or present classical analysis in public economics. As a general rule no slides will be used.

**Evaluation:** Grading will be based on participation.
The aim of the second year (M2) is to lead students to their first experience of a successful research project. It is centered around a wide choice of advanced courses designed to allow students to acquire specialized knowledge in different domains of current economics research. In first semester, they choose four core courses from among 23 courses of 36 hours, and in second semester, they select six from a range of 32 18-hour courses. At the same time, training in research processes takes place throughout the year. This consists in participation in a work-in-progress seminar, where students present their first steps in the development of their research projects. This is followed by the conduct of the research itself under the direction of a thesis supervisor, and the writing of a thesis of original work.

**COMMON CORE – CORE COURSES (SEMESTER 1)**

**ADVANCED MACROECONOMICS**

<table>
<thead>
<tr>
<th>ADVANCED MACROECONOMETRICS</th>
<th>COURSE LOAD: 36h</th>
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<td>ECTS: 6</td>
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**Profs. C. Doz & J. Imbs**

**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. A technical presentation of these models will be first given, and applications of these models to macroeconomics will be presented in the second part.

First Part: (C. Doz)

This part of the class will introduce Vector Auto-Regressions (VAR) models, in the stationary and in the non-stationary framework. The non-stationary framework will in particular focus on cointegrated VAR models, and the macroeconomic interpretation of cointegration will be discussed. Both frameworks can be used to study the propagation of macroeconomic shocks, through Impulse Response Functions (IRF’s), but this is left for the second part of the course.

Note that some technical parts of the slides which are given below will not be discussed during the class, and can be skipped. They have been however left for those who want to go into more technical details.

Second Part: (J. Imbs)

This part of the class will discuss applications of Vector Auto-Regressions in macroeconomics, including:

- Long run Restrictions. Do technology shocks have negative effects on employment?
- Identifying Monetary Policy shocks
- Identifying Fiscal Policy shocks
- Identifying Oil shocks

**Evaluation:** Written exam
BUSINESS CYCLES AND STABILIZATION POLICIES

PROFS. A. FERRIERE & J.O. HAIRault

PRESENTATION: The aim of this course is to familiarize students with policy-relevant macroeconomic research. The course will focus on dynamic stochastic general equilibrium (DSGE) models of the business cycle, and on heterogeneous-agent models.

The course will be divided in three parts.

Part 0 (A. Ferriere): This preliminary part provides a methodological framework to study Real Business Cycle models with or without heterogeneous agents. We will write recursively a simple real business cycle model to solve it numerically using global solutions.

Part 1 (J.O. Hairault): The aim of this first part is to familiarize students with DSGE approach: students will be able to fully understand the canonical real business cycle model, to build their own model of business cycle, to write the computer code (with matlab/scilab) and carry out experiments (stochastic simulations, impulse response function). The methodology will be then applied to unemployment fluctuations in search and matching DSGE models.

Part 2 (A. Ferriere): This last part will introduce heterogenous-agent models with complete and incomplete markets. We will learn how to solve models with a full distribution of heterogenous agents, and we will discuss some topics about fiscal policy and redistribution in this class of model.

EVALUATION: Report

GROWTH AND STRUCTURAL CHANGES

PROFS. P. AGHION, SAINT-PAUL G. & WIGNIOLLE B.

PRESENTATION: Part 1 (Bertrand Wigniolle), Growth and Structural Changes: 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 intergerational 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 framewok may explain the historical dynamics of economies.

Part 2 (SAINT-PAUL G)
Topic 1: Distributive conflict and economic growth
Topic 2: Growth and structural change
Topic 3: ICT, Robots, and Skilled-biased technical progress

Part 2 (P. AGHION)
Syllabus to be confirmed

EVALUATION: Written exam part BW and GSP and report for the part of PA
INTERNATIONAL MACROECONOMICS

PROFS. BENASSY-QUERE A., BUSSIÈRE M.

PRESENTATION: PART I (A. Benassy-Quere)
1) Monetary models of exchange-rate determination
2) The real exchange rate
3) Currency crises
4) Exchange-rate regimes and capital mobility

PART II (BUSSIÈRE M)
1) Economic and Financial Crises
2) Global Imbalances
3) International Trade

EVALUATION: Written exam and homework

APPLIED PUBLIC ECONOMICS

PUBLIC ECONOMICS

PROFS. BOZIO A., GRENET J., PIKETTY T.

PRESENTATION: 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.

EVALUATION: To validate the course, students are required (1) to attend all lectures 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.

ECONOMICS OF EDUCATION

PROFS. BEHAGHEL L., GRENET J. & GURGAND M.

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.

EVALUATION: Based on presentations (25%) and an exam (75%).
Economics of Social Policies
Profs. Breda T. & Maurin E.

COURSE LOAD: 36H
ECTS: 6

PRESENTATION:
This course is in two parts:
E. Maurin (24 hours, taught in French): Social Interactions and Public Policy
T. Breda (12 hours): Selected topics in Labor economics

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

La première partie de ce cours avancé (Eric Maruin) est dispensé 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.

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.

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

Health Economics
Profs. Apouey B., Geoffard P.Y. & Rochaix L.

COURSE LOAD: 36H
ECTS: 6

PRESENTATION:
This “Health economics/Health policy” module will be devoted to analysing the main determinants of recent trends in health status, the impact of recent reforms in health care systems and their social and economic consequences. It aims at both 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 and highlighting their health policy implications.

The course will present recent methodological developments in health economics, based on econometrics and micro-simulations techniques. It will aim at showing the potential for application in the health care field, of models and tools developed in other fields such as labour economics, behavioural economics or industrial economics. The course will also include a short presentation of the economic evaluation techniques.
**EVALUATION:** A short exam (90 minutes) on course content (30% of final mark), an oral presentation of a recent paper, in groups of 3 to 4 students (25%), an essay, based on the same paper but including comments made during the oral presentation (25%), continuous assessment based on students’ ability to respond to questions during class, using readings for each session (20%).

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**LABOR ECONOMICS**

**PROFS. CLARK A., FONTAINE F., LANGOT F. & MARGOLIS D.**

**COURSE LOAD:** 36H  
**ECTS:** 6

**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. Andrew Clark further discusses deviations from equilibrium and implications for policy. François Fontaine will then bridge the micro and the macro levels using search and matching models and their empirical applications. The last part of the course with François Langot is devoted labor market institutions and public policies such as tax and pension reform and unemployment insurance.

**EVALUATION:** Written exam and a homework

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**ADVANCED MICROECONOMETRICS**

**PROFS. BEHAGHEL L. & MARGOLIS**

**COURSE LOAD:** 36H  
**ECTS:** 6

**PRESENTATION:** **DAVID MARGOLIS PART**

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.

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

**LUC BEHAGHEL PART: LINKING THEORY AND PROGRAM EVALUATION**

After a general introduction, this part of the class will be based on the active reading of three papers (additional readings welcome but not mandatory).

Before each class, you will answer a set of multiple-choice question, justifying your choice in a concise way.
In addition, you need to choose one of three papers (roughly splitting the class into three thirds), and write three multiple-choice questions on the papers.

**EVALUATION:**  
**DM:** Report  
**LB:** Written exam (50%) + written responses to the multiple-choice questions and class participation (50%).

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**DEMOGRAPHY AND ENVIRONMENT**

<table>
<thead>
<tr>
<th>Environmental Economics</th>
<th>Course Load: 36h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. Chiroleu-Assouline M. &amp; Schubert K.</td>
<td>ECTS: 6</td>
</tr>
</tbody>
</table>

**PRESENTATION:**  
This is a course on natural resources economics (Part 1, Katheline Schubert) and environmental economics (Part 2, Mireille Chiroleu-Assouline).

**Part 1 (Katheline Schubert)**

1) Lecture 1: Non-renewable resources  
2) Lecture 2: renewable resources

**Part 2 (Mireille Chiroleu-Assouline)**

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.

**EVALUATION:**  
**KS:** Oral exam  
**MCA:** Written exam

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<table>
<thead>
<tr>
<th>Population Economics</th>
<th>Course Load: 36h</th>
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<tr>
<td>Prof. D’Albis H. &amp; Ponthiere G.</td>
<td>ECTS: 6</td>
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**PRESENTATION:**  
This course provides a general introduction to population economics, i.e. the study of interactions between economic and demographic variables. A particular attention is paid to the study, within a closed dynamic economy, of the (bidirectional) relationships between, on the one hand, the level of economic development, and, on the other hand, the levels of fertility and mortality.

**EVALUATION:** Written exam
**ECONOMIC HISTORY**

**ADVANCED ECONOMIC HISTORY**  
**PROFS. ALVAREDO F., BOURDIEU J., COGNEAU D., HAUTCOEUR P.C., KESZTENBAUM L., MONNET E., PIKETTY T.**  

**COURSE LOAD:** 36H  
**ECTS:** 6

**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-Simiand. 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 Alvaredo, Jérôme Bourdieu, Denis Cogneau, Pierre-Cyrille Hautcoeur, Lionel Keszenbaum, 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 this course (or need to refresh their memory) are strongly encouraged to go through the syllabus and slides used in this course.

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 the exam. 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.

**MICROECONOMICS**

**BEHAVIORAL ECONOMICS AND BOUNDS ON RATIONALITY**  
**PROFS. COMpte O. & JEHIEL P.**  

**COURSE LOAD:** 36H  
**ECTS:** 6

**PRESENTATION:**  
PART I (Jehiel)

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.

Part II (Compte)

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 now 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.

PJ Written exam

EVALUATION: OC Report

<table>
<thead>
<tr>
<th>ECONOMICS OF PUBLIC INTERVENTION</th>
<th>COURSE LOAD: 36H</th>
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<tbody>
<tr>
<td>PROFS. GAGNEPAIN P. &amp; MARTIMORT D.</td>
<td>ECTS: 6</td>
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PRESENTATION: P. GAGNEPAIN PART:

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
(a) Incentives and structural cost functions.
(b) Measuring efficiency
(c) Deregulation: The impact on costs, competition, and prices.
(d) Structural versus reduced functional forms.
(e) Static versus dynamic horizons

D. MARTIMORT PART:

Suggested Program

1) Preliminary: “All you should know about Incentives Theory and that you did not dare asking and that applies to regulation.”
3) Models of Delegation: Single-Agent
4) Delegation between Congress and Agencies in U.S. politics.
5) Collusion, bureaucracy and capture
6) Application: The design of regulatory agencies.
7) Collusion, delegation and hierarchies.
8) Application. Regulation of complementary products
9) Privatization
10) Other topics on delegated public management
11) Public-Private Partnerships
12) Delegation: Multi-Agent Models and Informational Lobbying
13) Experts/advocates
14) Common Agency
15) Application: Lobbying
16) “Political Principals”
17) Independent regulatory agencies
18) Incentives for bureaucrats: Career concerns

**PG Written exam**

**EVALUATION: DM Report**

<table>
<thead>
<tr>
<th>GENERAL EQUILIBRIUM THEORY</th>
<th>COURSE LOAD: 36H</th>
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<tbody>
<tr>
<td>PROFS. BONNISSEAU J.M. &amp; DEL MERCADO E.</td>
<td>ECTS: 6</td>
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**PRESENTATION:** The general economic equilibrium theory studies the interactions among heterogeneous agents on commodity and financial markets. The course focuses on the classical Arrow-Debreu model and the main properties of a competitive equilibrium (existence, efficiency, local uniqueness, structure of the equilibrium set). The course is a necessary step to handle advanced questions arising from financial markets and markets imperfections, such as externalities, imperfect competition or increasing returns to scale.

**Course Content - Part 1 (J.-M. Bonnisseau) & Part 2 (E. del Mercato)**

1) Overview of an equilibrium model. The model of an Arrow-Debreu economy.
2) Consumers and producers: Competitive behavior.
3) Competitive equilibrium: Properties and existence.
4) Pareto optimality. The two theorems of welfare economics.

**EVALUATION: Homeworks and Final Exam**
**INDUSTRIAL ORGANIZATION**  
**PROFS. CIAUDD B. & TROPEANO J.P.**  
**COURSE LOAD: 36H**  
**ECTS: 6**

**PRESENTATION:**  
This course is a core course in industrial organization.

The topic of the course is to study how markets work when perfect competition is not an acceptable assumption on the supply side. The course will cover models of imperfect competition among firms and it will propose an analysis of various pricing strategies, marketing strategies and other strategic manipulations that characterize firms' behavior when they try to gain or maintain market power.

The course requires a good 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 will devoted to (i) introducing standard theoretical models and explaining central theoretical contributions in the field and (ii) presenting some applied examples and empirical investigations of these theoretical models. It should be viewed as a prerequisite for the courses in Empirical Industrial Organization (A. Secchi, S2) and IO and Applications (D. Spector, S2).

**EVALUATION:** The final grade will be based on a final exam (70% of the final grade) and two homework assignments (15% of the final grade each)

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**INFORMATION, DESIGN & MARKETS**  
**PROFS. LAMY L. & TERCEUX O.**  
**COURSE LOAD: 36H**  
**ECTS: 6**

**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...
EVALUATION: Oral presentation and written exam

<table>
<thead>
<tr>
<th>NETWORKS ECONOMICS</th>
<th>COURSE LOAD: 36H</th>
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<tr>
<td>PROFS. BLOCH F., COMOLA M. &amp; DEMANGE G.</td>
<td>ECTS: 6</td>
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**PRESENTATION:**

Two parts:

G. Demange:

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.

M. Comola and F. Bloch:

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:

1) Block A: Empirical Methods [Margherita Comola]
2) 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)

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**TRADE AND DEVELOPMENT**

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<tr>
<th>DEVELOPMENT ECONOMICS</th>
<th>COURSE LOAD: 36H</th>
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<tbody>
<tr>
<td>PROFS. LAMBERT S. &amp; SUWA-EISENMANN A.</td>
<td>ECTS: 6</td>
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**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 macro economics, international trade as well as econometrics.

EVALUATION: Written exam

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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 market rules/algorithms and the fundamental theoretical results that anyone in this field should have in mind.
INTERNATIONAL TRADE  
PROFS. BAS M., FONTAGNE L. & PARENTI M.  
COURSE LOAD: 36H  
ECTS: 6  
PRESENTATION: To be confirmed  
EVALUATION: Written exam

POLITICAL ECONOMICS 2: CONFLICT, INSTITUTIONS, MEDIA AND GOVERNANCE  
PROFS. VANDEN EYNDE O. & ZHURAVSKAYA E.  
COURSE LOAD: 36H  
ECTS: 6  
PRESENTATION: Two parts:

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

VANDEN EYNDE O.
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 (25% of the final grade each) and final exam (50% of the final grade)

ELECTIVE COURSES (SEMESTER 2)

FIELD: MACROECONOMICS

COORDINATION OF EXPECTATION  
PROF. R. GUENNERIE  
COURSE LOAD: 18H  
ECTS: 3  
PRESENTATION: The course starts with a reminder of crises in the recent or less recent past. The introductory emphasis is put on the recent 2008 crisis and a discussion of questions for economic theory. 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 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). One also sheds a first light on the problems of expectational coordination, by discussing the existence of **durable bubbles**.

Lecture 3 goes further in exploring the surroundings of the “garden”. It 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 4 presents an overview of the history of **money and banking** and then provides a series of theoretical insights on **liquidity and crisis** which reflect both the agency theory and the expectations formation viewpoints.

Lecture 5 selected tools for an "**eductive**" approach to the study of expectational coordination. The tools may derive from game theoretical premises (rationalizability), or from a simple intuition on the stability of beliefs around an equilibrium. "Eductive" 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, both in **finite and infinite horizon contexts**.

Lecture 6 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 models.

Lecture 7 comes back to some problems in **finance** (like the efficient market hypothesis) or in **macroeconomics** (like the connections between price adjustments and expectations).

**EVALUATION:** Report – to be confirmed

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**COMPUTATIONAL ECONOMICS**

**PROF. N. COIMBRA**

**COURSE LOAD:** 18H **ECTS:** 3

**PRESENTATION:** The main goal of this course is to enable students to solve complex dynamic macroeconomic models that require numerical solutions.

With the increasing complexity of economic modelling, numerical solutions are becoming unavoidable for macroeconomists dealing with fully dynamic models. This course intends to be a practical and applied introduction to the main methods available to researchers.

The course will not only describe the methods from a theoretical perspective, but it will also have an important hands-on component. Students will be working with Matlab codes and will be expected to be able to write their own by the end of the course, with the goal of enabling them to use these methods in their own dissertation.

**EVALUATION:** Report – to be confirmed
PRESENTATION: Part 1: Monetary policy: contemporary theory

Introduction: the traditional monetary policy models (Barro, Gordon, etc.)

Chapter 1: Transparency

Chapter 2: Uncertainty

Chapter 3: Deflation

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).

Part 2: The choice of exchange rate regime

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: 2 hours written exam // all written materials as well as laptop authorized
FINANCIAL AND MONETARY MACROECONOMICS

COURSE LOAD: 18H

PROF. J.B. CHATELAIN ECTS: 3

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.

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).

FIELD: TRADE & DEVELOPMENT

APPLICATIONS OF IMPACT Evaluation and Development MICROECONOMICS

COURSE LOAD: 18H

PROF. K. MACOURS ECTS: 3

PRESENTATION: The objective of this course is to study empirical papers based on quantitative impact evaluations of development interventions, and analyze them within the broader framework of development micro-economics. Students will learn how to critically read empirical impact evaluations using various econometric techniques, and how to design and implement impact evaluations of actual development projects. The course aims to provide initial guidance and feedback for students developing their own research in this area.

EVALUATION: Grades for the class will be based on presentations, participation in discussions and a final written assignment.
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.

Course Outline:
1) Introduction
2) Chapter 1 : Theory and empirics of economic growth as applied to development: a reminder
3) Chapter 2 : Trade Policies
4) Chapter 3 : Migration
5) Chapter 4 : Education and Social Policies
6) Chapter 5 : Governance, Inequality and Development
7) Chapter 6 : Finance and capital movements
8) Chapter 7 : Official Development Assistance (Aid)
9) Chapter 8 : Global Governance, International Organizations and Development
10) Conclusion

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.
**TRADE POLICY**

**PROF. AC. DISDIER & F. FOURE**

**Course Load:** 18H  
**ECTS:** 3

**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.

- Applied general equilibrium models which aim at answering “what if?” questions about future agreements.

To do so, the course will mix 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**

**PROF. L. GOBILLON**

**Course Load:** 18H  
**ECTS:** 3

**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)*
FIELD: ECONOMIC HISTORY

Monetary and Financial History

Course Load: 18H

PROF. P.C. HAUTCOEUR, E. MONNET

ECTS: 3

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.

Evaluation:
For each session, students have to read the two required articles and write a short note on each of them (less than one page) highlighting criticisms and questions. This will only help starting the discussion during the class. For the final grade, students will be asked to summarize and organize the discussions that took place in class about two articles (either the two of the same course session, or two chosen in different sessions).

ECONOMIC HISTORY OF LABOR

Course Load: 18H

PROF. M. ARNOUX, J., BOURDIEU, JY., GRENIER, G. POSTEL-VINAY

ECTS: 3

Presentation:
This course is taught in French.

Le séminaire de l’année 2018-2019 se donne pour objectif, comme l’année précédente, de comprendre ce que sont le salaire et le rapport salarial dans des temps et des lieux très variés, la diversité des situations étudiées – depuis l’Antiquité jusqu’au monde contemporain, au travers de multiples aires culturelles – devant fournir autant de terrains d’enquête. Cette année le séminaire s’intéressera particulièrement à la notion de marché du travail, avec une question centrale : qu’est-ce que cette notion, censée déterminer les paramètres essentiels de la relation salariale (rémunération, durée, volume d’emplois, etc.), permet de dire sur les relations de travail et leur évolution dans le temps mais aussi tout ce qu’elle empêche de penser.

L’enjeu du thème retenu est crucial car il pose la question de la relation qu’entretient le savoir économique avec les multiples réalités, historiques et contemporaines, dont il doit rendre compte. Le marché du travail est une construction qui suppose pour
apparaître une efficacité, même limitée, que des conditions économiques, sociales ou institutionnelles soient remplies. Toutes les mobilisations de la force de travail ne passent pas par l’existence d’un marché dont les modes d’existence sont par ailleurs d’une grande variété. Le séminaire s’attachera ainsi à comprendre, au travers des cas empiriques très divers, si et quand il est pertinent d’utiliser la notion de marché du travail, et surtout quels sont les préalables nécessaires pour qu’elle soit éventuellement opérante.

Finalement, on envisagera aussi la possibilité de renverser le point de vue et, plutôt que de voir le marché comme un mécanisme a-historique dont on trouve diverses réalisations plus ou moins imparfaites en différents lieux et temps, on se demandera s’il existe une forme d’historicité du marché du travail, une transformation cumulative dans la longue durée de ce mode particulier de régulation du travail comme activité sociale.

**EVALUATION:** 

*To be confirmed*

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**HISTORICAL DEMOGRAPHY**

**PROF. L. KESZTENBAUM**

**Course Load:** 18H  
**ECTS:** 3

**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).
**ECONOMIC HISTORY OF INEQUALITY**

**Course Load:** 18H

**ECTS:** 3

**Professor:** T. Piketty

**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

**Field:** Microeconomics

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**Theories of Collective Choice**

**Course Load:** 18H

**ECTS:** 3

**Professor:** JF. Laslier

**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**

The grade for this course is based on the oral presentation of an article in a list of recommended readings. You can also come up with your own choice of article.
### Empirical Industrial Organization  
**Course Load:** 18H  
**Prof. A. Secchi**  
**ECTS:** 3

**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.

### Industrial Organization and applications to antitrust and regulations  
**Course Load:** 18H  
**Prof. D. Spector**  
**ECTS:** 3

**Presentation:**  
This class surveys recent contributions to theoretical industrial organization and their applications to competition policy. In each class, the main theoretical results are reviewed and then applied to recent cases handled by competition authorities.

**Evaluation:**  
Grading will be based on student presentations (50%) on actual competition cases, based on descriptions of the case (such as decisions by competition authorities and courts) and on related theoretical literature and a final exam (50%). Student presentations are scheduled to take place in each class, starting on the fourth one. A written support is expected for the student presentations, and the grading will take it into account in addition to the oral presentation.
Intertemporal choice under uncertainty

COURSE LOAD: 18H

PROF. L. ARRONDEL, A. MASSON ECTS: 3

PRESENTATION: This course will be taught in French:

Microéconomie des arbitrages inter-temporels et inter-générationnels des ménages :

1. 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 ;
2. modèles de transmission des héritages (altruisme et réciprocity indirectes) ; taxation des héritages ;
3. retraites et protection sociale, interaction entre solidarités publiques et privées, en particulier dans leur dimension intergénérationnelle, pensées et modèles de l’État-providence.

EVALUATION To be confirmed.

Social Interactions

COURSE LOAD: 18H

PROF. T. VERDIER ECTS: 3

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 statistical physics) to such issues, emphasizing the role of endogenous preferences, social norms and social interactions. The course is intended for PhD and DEA students, but well-prepared and motivated licence students may also take it with permission of the professor.

EVALUATION Report - To be confirmed.
The Theory of Incentives

**COURSE LOAD:** 18H

**PROF. D. MARTIMORT**

**ECTS:** 3

**PRESENTATION:** To be confirmed

**EVALUATION**

Report - To be confirmed.

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Topics in Exchange

**COURSE LOAD:** 18H

**PROF. G. DEMANGE**

**ECTS:** 3

**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**

Attendance is compulsory. The grade will be based on:

- the answers to simple questions on papers before their presentation (35%),
- a presentation of one or 2 papers (in small groups) depending of the audience (32.5%)
- a memoire (32.5%).

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Topics in Game Theory

**COURSE LOAD:** 18H

**PROF. F. KOESSLER**

**ECTS:** 3

**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, information design, and Bayesian persuasion.
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

• Written exam (2 hours, without document), based on exercises similar to those given as homework + some questions about the content of the course; 2/3 of final grade;
• Homework between classes; 1/3 of final grade;
• Participation in class; bonus to final grade.

Topics in insurance economics

COURSE LOAD: 18H

PROF. C. BOBTCHEFF

ECTS : 3

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. This class will be theoretically oriented.

Outline of the class

I. Introduction

II. Choice under uncertainty

III. Demand for insurance

IV. Supply for insurance and risk sharing

V. Moral hazard

VI. Adverse selection

EVALUATION

• Mid-term written exam (1 hour, 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).  

<table>
<thead>
<tr>
<th><strong>Experimental Economics</strong></th>
<th><strong>Course Load:</strong> 18H</th>
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<tr>
<td><strong>Prof. N. Jacquemet</strong></td>
<td><strong>ECTS:</strong> 3</td>
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**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.

<table>
<thead>
<tr>
<th><strong>Advanced Decision Theory</strong></th>
<th><strong>Course Load:</strong> 18H</th>
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<tbody>
<tr>
<td><strong>Prof. J.M. Tallon</strong></td>
<td><strong>ECTS:</strong> 3</td>
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</table>

**Presentation:** In this course, we will present recent advances in the field of decision theory mainly in the domain of risk and uncertainty. We will review experimental and empirical data pointing to the need to go beyond the usual expected utility model, as well as basic economic implications of this model. We will then present recent generalizations of expected utility and will further explore their implications for various economic arrangements (contracts, markets etc).

**Evaluation:** Three problem sets will be handed over and the students will also have to take a final exam.

<table>
<thead>
<tr>
<th><strong>Taxation</strong></th>
<th><strong>Course Load:</strong> 18H</th>
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<tr>
<td><strong>Prof. S. Gauthier</strong></td>
<td><strong>ECTS:</strong> 3</td>
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**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 Salani’e, B., The Economics of Taxation, MIT Press.

**Evaluation** To be confirmed
**Applied Public Economics**

**Econometric Methods**

**Course Load: 18H**

**Prof. P. Ketz**

**ECTS: 3**

**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.

**Note:** The course, in particular the assignments and the final project, will require coding in R. (You may also use Matlab if you prefer, but instructions will be based on R.)

**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).

**Economics of Well-being**

**Course Load: 18H**

**Prof. A. Clark, C. Senik**

**ECTS: 3**

**Presentation:**

The main motivation 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), 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 motives.

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 – to be confirmed

Demography & Environment

Environmental Policy

COURSE LOAD: 18H

PROF. K. MILLOCK, K. SCHUBERT

ECTS: 3

PRESENTATION:

This course 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.

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 favour 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.

Population Policy

COURSE LOAD: 18H

PROF. B. RAPOPORT, E. STANCANELLI

ECTS : 3

PRESENTATION:
This course will focus on three fundamental topics of public intervention: discrimination, family and retirement.

This year we shall focus on the economics of discrimination (Stancanelli E) and retirement (Rappoport B.).

The first part of the course on the economics of discrimination and anti-discrimination policies will be taught by Prof. E. Stancanelli (Paris School of Economics & CNRS). The course will cover theories of discrimination and different applications, focusing on methods to assess discriminatory behavior against minorities. The literature on the evaluation of policies to prevent and remedy discrimination will also be examined, including for example economic studies on positive affirmative action and quotas.

The other part of the course will be taught by Prof. Benoit RAPPOPORT (Paris 1 University & INED) and will look into economic theories of ageing and retirement and analyze different aspects of the relationship between ageing, economic structures and public intervention, especially in the context of an ageing society.

EVALUATION

ES : The exam for this part of the course will consist on designing an application to elicit and measure discrimination.

BR : The exam for this part of the course will last about 2 hours and be structured as follows. You will be given a short paper on retirement topic and you will be asked to comment on it. You will have to think of the economic model underlying this paper and relate it to the literature we have studied together. You will have to think of ways the paper could have been improved. Thus, provide at least 3 good reasons the paper deserved to be published while also listing at least 3 shortcomings of the paper.
International migration is a key aspect of globalization. While migrants represent about 3 percent of the world population, a relatively stable figure, immigrants now represent nearly 10 percent of the population of OECD countries, a twofold increase in just a couple of decades. Another interesting pattern of international migration is that it is increasingly of the brain drain type. The aim of the course will be to present a detailed picture of international migration today, to understand the forces behind the patterns of its evolution, and to analyze both theoretically and empirically the effect of international migration on the home and host countries as well as on the global economy. At a theoretical level we will aim at conveying the intuition of the mechanisms at work using simple economic models. At the empirical level we will discuss the results from selected studies. The course will focus on labor as well as international and growth/development economics issues.

**EVALUATION**

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.

Grading scheme: 20% class participation, 80% written final exam.

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-)economics, 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**

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**From statistical physics to social sciences: an outline**

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**COURSE LOAD: 18H**

**ECTS : 3**

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**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

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**EVALUATION**

The evaluation will be under the form of a written exam of 2h30
### Dissertation workshop – semester 1 and 2 (Students choose 1)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
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<tbody>
<tr>
<td>Behavioral economics</td>
<td>S1 to help you choose a dissertation topic and a supervisor (APE or PSE faculty)</td>
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<tr>
<td>Economic History</td>
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<td>Macroeconomics</td>
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<td>Theory (Microeconomics)</td>
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<td>Development</td>
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<td>Labor and Public Economics</td>
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<td>Regulation, Environment and Markets</td>
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<td>Trade and Population</td>
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<tr>
<td>Grade</td>
<td>Reading group + building research project</td>
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<td></td>
<td>Grade = thesis grade</td>
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</table>
Useful information: locations and contacts

LOCATIONS

About the Campus Jourdan
48 Boulevard Jourdan – 75014 Paris

How to get there?
- With the Métro (subway/underground): line 4, station: Porte d’Orléans
- With the RER: line B, station; Cité Universitaire
- With the Bus:
  - 88, 216: station Tombe Issoire
  - 28, 23, 125, 126, 128, 187, 188, 194, 197, 295, 297, 299, 475: station Porte d’Orléans
  - Paris’ Bus Map

Classrooms and master’s office

Building Oikos:
- Classrooms first floor: R1-09; R1-10, R1-11, R1-13, R1-14, R1-15, R1-16
- Classrooms second floor: R2-01, R2-20, R2-21
- Computer Lab: R2-07
- Study rooms: R1-12 and R1-17 (computer room for the students)
- Leisure room: R1-02

- Masters’ office: second floor
- APE director’s office: by appointment

CONTACTS

The APE master’s directors:
Bernard Caillaud et Jean-Philippe Tropéano
Office hours: by appointment
Mail: direction-ape@psemail.eu

The masters’ office:
Lucia Roxana Ban & Pauline Marmin
Building Oikos, second floor
Office hours: Monday to Thursday : 15h30 – 17h30, Thursday to Friday : 9h30 – 12h30 (please respect the office hours)
Mail: master-ape@psemail.eu