APE BOOKLET
Academic year 2024-2025

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

<u>Presentation:</u>

Prerequisites

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.

Textbooks

Main references :

[R] Ruud. *An Introduction to Classical Econometric Theory*, Oxford University Press, 2000. (for french speakers)

[CJ] Crépon & Jacquemet. *Econométrie : Méthodes en Applications*, De Boeck, 2018 (2nd edition).

Much useful :

Wooldridge. *Econometric Analysis of Cross Section and Panel Data*, MIT Press, 2002 (2nd ed. 2010).

Will be in the near future :

Cameron & Trivedi, *Microeconometrics*, Cambridge University Press, 2009.

Need to be aware of :

Greene. *Econometric Analysis*, Prentice Hall, (any edition is (not) ok).

Course 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, during the exam week. 3 kinds of questions can be included :

(i) Short questions (typically true/false) testing your understanding of the class ;
(ii) Econometric exercises of the same type as the ones presented in the tutorial ;
(iii) Comment of the analysis/results of the tables of a paper.

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

Presentation:

Game Theory aims at analyzing strategic situations, that is, situations in which the payoff of an agent payoff may depend on the actions of other agents. Examples of strategic situations are 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:

50% of grading will be on final exam.

50% on midterm

5% bonus (i.e. up to one point bonus on final grade) will be based on attendance to tutorials (20%) and participation during tutorials (80%).

5% bonus (i.e. up to one point bonus on final grade) will be based on participation (20%) and responses (80%) to experiments to be given during lectures.

International Economics				
Field: **Macroeconomics** Type course: **Compulsory**	Teacher.s: **Julien MATHERON, Mathieu PARENTI and Thierry VERDIER**	TA.s: **Juan-Camilo MEDELLIN and Alvaro ZUNIGA-CORDERO**	Course load: **24 hours** Tutorial load: **18 hours**	ECTS: **5**

Presentation:

The course is in two parts:

- International Trade (M. Parenti and T. Verdier)
- International Macroeconomics (F. Pappada).

Students will need to choose one of these parts to take during their M1 year. They must meet all requirements for that part, and sit the final exam for that part, in order to earn a total of 5 ECTS.

International Trade Overview:

This course is devoted to the study of international trade issues and divided in two parts. The objective of the first part 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 liberalisation 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 an introduction to international trade under imperfect competition.

The second part of the course reviews three contemporaneous topics in the light of the presented models. First, the Ricardian model is used to investigate how climate change may reshape trade patterns; conversely, both the Ricardian and the Heckser-Ohlin models are revisited in the presence of an environmental externality. Second, the implications of globalization for income inequality stemming from the Hecksher-Ohlin model are confronted to the data and theoretical extensions are discussed. Third, the role of trade policy (tariff and non-tariff barriers) and the associated gains and losses are examined using the framework of neoclassic models, with a specific focus on the China-US trade war.

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

1. Overview, Comparative Advantage, Gains from Trade
2. Neoclassical models of international trade: Ricardo and Heckscher-Ohlin
3. Extensions of the Hecksher-Ohlin model
4. Trade, the Environment, and Climate Change
5. Globalization and Inequality beyond Hecksher-Ohlin
6. Trade Policy and Trade Wars

International Macroeconomics 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 course will be based on:
- Stephanie Schmitt-Grohé, Martin Uribe, and Michael Woodford
- International Macroeconomics: A Modern Approach
- Princeton University Press, 2022

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

1. National Accounting (the Balance of Payments)
2. Determinants of the Current Account in an Endowment Economy
3. Determinants of the Current Account in a Production Economy
4. Twin Deficits
5. The Real Exchange Rate and its Determinants
6. The Nominal Exchange Rate and Monetary Policy

<u>Evaluation:</u>

International Trade Evaluation:

Two problem sets: 40 % of the course grade

Final Exam: 50% of the course grade

Presence and participation at tutorials: 10%

International Macroeconomics Evaluation:

Homeworks (40%)

Final exam (60%)

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

Presentation:

"Introduction to Economic History" is a compulsory first-year master course and can also be attended as an optional second-year master course. The objective is to present a general introduction to economic history, with special emphasis on the interaction between capital accumulation, inequality regimes and growth.

Students wishing to specialize in economic history and related subjects are also strongly encouraged to attend the optional second-year master course "Advanced Economic History".

Students with special interest in the history and theory of optimal taxation and redistribution or wishing to specialize in public economics are also encouraged to attend the optional second-year master course "Public Economics".

"Introduction to Economic History" is organized in 8 lectures of 3 hours each.

Evaluation:

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

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

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: **Quantitative Methods** Type course: **Optional**	Teacher.s: **Giacomo WEBER**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **n/a**

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). The course lectures are held through the Didask platform. Some slides for each topic are provided on this teaching platform as a complementary tool. The tutorials will be taught in class over the first two weeks of the first semester. The course has no evaluation.

References:

Statistics:

Appendices B and C of: Introductory Econometrics: A Modern Approach (4th ed.), by Jeffrey M. Wooldridge, Cengage Learning, 2008, 888 p.

Statistical Inference (2nd ed.), by George Casella and Roger L. Berger, Pacific Grove, CA: Duxbury, 2002, 660 pp.

Mathematics:

Optimal Control Theory and Static Optimization in Economics, by Daniel Léonard and Ngo Van Long, Cambridge University Press, 1992, 353 pp.

Essential Mathematics for Economic Analysis (3rd ed.), by Knut Sydsaeter and Peter Hammond, Prentice Hall, 2008, 721 pp.

Further Mathematics for Economic Analysis (2nd ed.), by Knut Sydsaeter, Atle Seierstad, Peter Hammond, and Arne Strom, Prentice Hall, 2008, 632 pp.

Evaluation:

n/a

Microeconomics 1				
Field: **Microeconomics** Type course: **Compulsory**	Teacher.s: **Pierre-Y. GEOFFARD and Matthieu LEDUC**	TA.s: **Giacomo WEBER**	Course load: **36 hours** Tutorial load: **24 hours**	ECTS: **6**

Presentation:

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

Evaluation:

40% Midterm Exam

40% Final Exam

20% Tutorials

R Practice Class				
Field: **Quantitative Methods** Type course: **Optional**	Teacher.s: **n/a**	TA.s: **Maria MONTOYA AGUIRRE**	Course load: **n/a** Tutorial load: **8 hours**	ECTS: **n/a**

Presentation:

The objective of this course is to provide you with the necessary bases in **R programming** to be able to carry out your empirical homeworks and research projects. The course is structured in **4 classes** of 2 hours. No preliminary knowledge in programming is required, but part of the content of the last lecture is based on what you're going to see in Econometrics I. Lectures will take place in the **computer room R2-07** at Campus Jourdan, but feel free to bring up your own laptop (in that case install R and R Studio before the first class).

Evaluation:

n/a

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M1 APE SYLLABUS – Semester 2

Development Economics				
Field: **Optional Seminar** Type course: **Elective**	Teacher.s: **Jérémie GIGNOUX, Akiko SUWA-EISENMANN and Liam WREN LEWIS**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

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:

Exam. Duration of 2 hours. All documents allowed.

We ask you to bring your laptop, type your answers (in word or tex), and submit them by email/usb at the end of the exam.
Obviously, it's strictly forbidden to communicate with anyone during the exam.

Econometrics 2				
Field: **Quantitative Methods** Type course: **Compulsory**	Teacher.s: **Catherine DOZ, Martin MUGNIER**	TA.s: **Charlotte NUDELMANN and Pierre POULON**	Course load: **36 hours** Tutorial load: **24 hours**	ECTS: **6**

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:

50% Final written exam

25% Homework

25% Mid-term exam

Econometrics 3				
Field: **Quantitative Methods** Type course: **Compulsory**	Teacher.s: **Luc BEHAGHEL and Philipp KETZ**	TA.s: **Pietro GEUNA**	Course load: **36 hours** Tutorial load: **24 hours**	ECTS: **6**

[Course information from 2021-2022]

Presentation:

The course has 12 weeks (lectures) with two 1h30 sessions each. Weeks 1-4 are taught by Luc Behaghel and weeks 5-12 are taught by Philipp Ketz.

The course covers three 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 estimation under the unconfoundedness assumption.

Lectures 6 and 7 deal with panel data. We first consider "classical" linear panel data models and introduce standard estimators, such as the "random effects" and the "fixed effects" estimators. We then discuss the recent literature that points out problems with the standard two-way fixed effects estimator in the presence of treatment effect heterogeneity and proposes alternative differences-in-differences type estimators.

Lectures 8-11 cover Maximum Likelihood (ML) estimation and its main applications in applied economics, namely limited dependent variable models. In lectures 8 and 9, we discuss the binary dependent variable (or binary outcome) model and introduce the concept of ML together with its large sample justification. In lecture 10, we cover other limited dependent variable models such as (multivariate) discrete choice, censored regression, and duration models. In lecture 11, we discuss the "classical'' approach to dealing with sample selection issues that relies on distributional assumptions and thus also lends itself to estimation by ML.

Lecture 12 introduces some nonparametric alternatives to deal with sample selection issues that give rise to "bounds" and provides a review of the course.

References:

- Wooldridge, *Introductory econometrics.* ==> Undergraduate textbook, but still useful to make sure you understand the basics. Very clear appendixes on matrix algebra and statistical tools.
- Wooldridge, *Econometric analysis of cross section and panel data.* ==> More advanced, and quite extensive.
- Cameron and Trivedi, *Microeconometrics.* ==> Similar to previous one; a little bit less formal and less systematic, but more developed examples.

None of these textbooks is dedicated to treatment effect models and program evaluation. Here are two shorter references. They are uploaded among "general documents", and the second is more advanced (we only cover part of it):

- Introduction by Pauline Givord, *Economie et prévision*, 2015 (in French)
- Survey by Imbens and Wooldridge, *Journal of economic literature,* 2009

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: **Optional Seminar** Type course: **Elective**	Teacher.s: **Hippolyte D'ALBIS**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

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:

The grading system will be based on participation in class and oral presentations. Students will have to make two presentations of a scientific article, one during course IV (on epidemics) and one during course VI (on discrimination).

Environmental Policies				
Field: **Optional Seminar** Type course: **Elective**	Teacher.s: **Mouez FODHA and Mathew GORDON**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

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:

100% Final report

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

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:

100% Final exam

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

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.

Part 1. Understanding wage inequalities

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. Labor market institutions

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

Evaluation:

100% Oral presentation based on short "dissertation"

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

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.

Outline:

1. Concepts and limits of economic policy
2. Fiscal policy
3. Monetary policy
4. Financial stability

References:

Bénassy-Quéré, A., Coeuré, B., Jacquet, P. and J. Pisani-Ferry, Economic Policy: Theory and Practice, Oxford University Press, 2nd edition 2018.

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: **Macroeconomics** Type course: **Compulsory**	Teacher.s: **Gilles SAINT-PAUL**	TA.s: **Eustache ELINA and Artur PRZYSADA**	Course load: **36 hours** Tutorial load: **24 hours**	ECTS: **6**

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: **Microeconomics** Type course: **Compulsory**	Teacher.s: **Francis BLOCH and Bernard CAILLAUD**	TA.s: **Béla ELMSHAUSER**	Course load: **36 hours** Tutorial load: **24 hours**	ECTS: **6**

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: **Social Sciences** Type course: **Compulsory**	Teacher.s: **n/a**	TA.s: **n/a**	Course load: **24 hours** Tutorial load: **n/a**	ECTS: **3**

<u>Presentation:</u>

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

<u>Evaluation:</u>

Depending on the chosen course.

M2 APE SYLLABUS – Core Courses

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

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. 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 to attend and actively participate to all lectures. The main evaluation relies on two written evaluations of papers related to the content of 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.

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

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:

100% Written exam

Advanced Microeconometrics				
Field: **Public Economics & Labor** Type course: **Core**	Teacher.s: **David MARGOLIS and Philipp KETZ**	TA.s: **OBERTHÜR Christoph**	Course load: **36 hours** Tutorial load: **9h**	ECTS: **6**

The course consists of two parts. The first part (24h) is taught by David Margolis and the second part (12h) is taught by Philipp Ketz.

The first part of the 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. The topics covered in this part are:

- *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*
- *Count data 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, indirect inference*

The second part of the class introduces modern machine learning tools, with a focus on applications in economics. For this part of the course, there will be "lab sessions" supervised by a TA where students will implement the newly acquired tools. The topics covered in this part are:

- *Introduction (machine learning for prediction, cross-validation, bias-variance trade-off)*
- *Penalized linear regression (LASSO, Ridge, etc.)*
- *Average treatment effect estimation in the presence of high-dimensional controls (via double selection estimator and closely related double/debiased machine learning estimator)*
- *Regression trees*
- *Estimating heterogeneous treatment effects in randomized controlled trials (via tree-based methods such as causal trees and causal forests and via "generic machine learning methods")*

The first part of the course will be evaluated based on a paper (max 12 pages) and the second part will be evaluated based on homework assignments or a midterm (to be determined)

Behavioral development economics				
Field: **Development** Type course: **Elective**	Teacher.s: **Suanna OH**	TA.s: **n/a**	Course load: **24 hours** Tutorial load: **n/a**	ECTS: **3**

<u>Presentation:</u>

This class takes an in-depth look at behavioral factors that matter for poverty, development, and social policies. In the first part, students will learn a number of key concepts in behavioral economics (e.g., present bias, reference-dependent preferences, and attention) with a focus on applications. In the second part, lectures will cover specific topics in development, with an emphasis on experimental design.

Behavioral Game Theory				
Field: **Economic Theory** Type course: **Core**	Teacher.s: **Philippe JEHIEL, Olivier COMPTE and Evan FRIEDMAN**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

<u>Presentation:</u>

Overview for P. Jehiel's part:

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.

Overview for O. Compte's part:

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.

Overview for E. Friedman's part:

Pending.

<u>Evaluation:</u>

Pending.
(Students must complete all parts of the course in order to earn the 6 ECTS.)

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

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 two-hour written exam**,** with documents and computer allowed. Coeff 3.

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

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:

25% presentations

75% final exam

Economics of Public Intervention				
Field: **Regulation, Environment & Markets** Type course: **Core**	Teacher.s: **Philippe GAGNEPAIN and Stéphane GAUTHIER**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

Presentation:

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. Theoretical models are confronted to empirical applications of contract theory in a situation of asymmetric information. Special emphasis will be given to the construction of empirical models that will be tested with data.

Content:

- SG Monopoly regulation: Benchmark setup
- Empirical applications I: The regulation of monopolies. We will study empirical applications of contract theory in a situation of asymmetric information between regulators and operators in charge of organizing a public service.
- SG Regulation under competitive pressures
- Empirical applications II: Effects of competition. We will discuss tools which allow appraising the effects of market deregulation on the operating costs of monopolies and the ability of firms to make good predictions about the behaviour of their competitors.
- SG Regulation of industrial risk
- SG Optimal regulation of health service providers
- SG Social versus private insurance
- PG Empirical applications III
- SG Optimal taxation
- SG Political economy of taxation

Evaluation:

50% final exam

50% term paper

Environmental Economics				
Field: **Regulation, Environment & Markets** Type course: **Core**	Teacher.s: **Mireille CHIROLEU-ASSOULINE, Mathew GORDON and Hélèe OLLIVIER**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

<u>Presentation:</u>

This is a course on advanced microeconomics environmental economics (Part 1, Mireille Chiroleu-Assouline) and important issues at the frontier of the field (Part 2, Matthew Gordon and Hélène Ollivier).

Overview for M. Chiroleu-Assouline's part:

This part examines in depth the application of economic principles to problems of environmental regulation. After a brief review of the theory of externalities and the theoretical properties of the various pollution control tools such as Pigouvian taxes, tradable permits, regulatory standards and subsidies, in the benchmark case of perfect information and certainty, we will then look at issues relating to the design of environmental policy in the case of uncertainty or asymmetric information. We will first address the question of the choice of instruments under uncertainty and the precautionary principle. We will then look at ways of dealing with adverse selection to enable green products to be marketed, using eco-labels, but also to regulate polluters whose characteristics are unknown by the policy-maker. Finally, we will consider several cases of regulation of polluters whose behaviour is not observable (moral hazard).

Overview for M. Gordon's and H. Ollivier's part:

Pending.

<u>Evaluation:</u>

50% final exam on M. Chiroleu-Assouline's part

50% final exam on M. Gordon's and H. Ollivier's part

(Students must complete allparts of the course in order to earn the 6 ECTS.)

Growth and Climate Change				
Field: **Macroeconomics** Type course: **Core**	Teacher.s: **Philippe AGHION and Katheline Schubert**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

Presentation:

Overview for P. Aghion's part: [Pending]

Overview for K. Schubert's part:

1. Non-renewable resources
   Scarcity
   Hotelling: 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 of 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
2. The energy transition, an economic perspective
   The Net-Zero objective and how to reach it
   Decarbonizing energy
   Renewables energies: costs, management of intermittency
   Climate policy
3. Energy transition and long term growth
   Growth with non-renewable resources
   Is green growth possible?
4. The macroeconomic impacts of climate policy
   Direct benefits (avoided damages)
   Effects on demand
   Stranded assets, stranded jobs
5. Climate change macroeconomics: the tools
   Long run: Integrated Assessment Models (DICE and beyond)
   Medium run: Computable General Equilibrium models
   Short run: E-DSGE

Evaluation:

50% written exam for KS's part
50% report for PA's part
(Students must complete both parts of the course in order to earn the 6 ECTS.)

Health behavior, health inequalities // Health Economics				
Field: **Behavioral Economics & Social Policies** Type course: **Core**	Teacher.s: **Pierre-Yves GEOFFARD, Fabrice Etilé, Carine Milcent**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

Presentation:

This course will cover key issues in the economic approach to health inequalities, health behaviours, public and private health insurances, and health care supply. Most sequences of the course will include the presentation of empirical facts and key research questions, theoretical elements that may help answer these questions, and results from empirical studies.

Some sequence of the course will appeal to knowledges outside the strict boundaries of economics, such as sociology, thus illustrating the complementarity between social sciences for a better understanding of human behaviours, societies and institutions.

The course will also equip students with an overview of some normative issues raised by the regulation of both health behaviours and health care supply. The objective is to unveil the deep connections between the policy debates and effective regulations observed in the real world, and the theoretical approaches to health behaviours, markets, and institutions.

Syllabus

Part I - Health behaviours & health inequalities (Pierre-Yves Geoffard & Fabrice Etilé) – 18H

I-1 – Health inequalities - 12H00 - Pierre-Yves Geoffard (APE, PPD)

The "health gradient" refers to an empirical fact: at the aggregate and at the individual level, human health is correlated with socio-economic status (SES). This part will start by discussions about this empirical evidence. How do we measure health? What are the different options to assess socio-economic conditions (income, education, social class,…)? Does this correlation hold if we control for some other variables? How can we assess the welfare costs of SES inequalities in health? We will then examine the possible causal paths that may lead to this observed correlation, from SES to health, from health to SES, from a latent variable to SES and health… This provides a list of hypotheses, in particular on the determinants of health. The main possible links are living conditions, labour, environment, health behaviour, and health care.

II-1 – Health behaviours and public policies (6H) – Fabrice Etilé (APE, PPD)

Grossman (1972)'s seminal contribution to health economics has been to model health as a capital, and health behaviours as investments: people have a demand for health that depends on prices, risks, preferences (especially time preference) etc. We will start by presenting this neo-classical approach to health behaviours, its power, and its implications in terms of policy regulations. What can be the drivers of preventive behaviours? Is it possible to model addictive behaviours as rational decisions? Was this approach validated by empirical findings? Then, we will see how reintroducing 'rationality failures' in choices can help account for everyday health behaviours, such as denial of symptoms. This also raises questions regarding the relative importance of individual responsibility vs. the environment in health behaviours. Then, what are the consequences of such rationality failures for standard policies, such as taxes on sin goods or information?

Part II – Health care supply & health insurance – Carine Milcent & Pierre-Yves Geoffard – 18H

II-2 – Health insurance (6H) – Pierre-Yves Geoffard (APE, PPD)

Health care cannot be analysed as a standard market. Individuals rarely have the relevant information, and in most developed countries they only pay a fraction of the cost. Moreover, health care affects individual well-being only indirectly, through the effect it may have on health. Rather than a demand for health care, there is a demand for health. Demand for health care depends on how health care costs are split between the patient and health care insurance schemes. Health care financing often relies on public and/or private insurance. How can competition in health insurance be regulated to minimize risk selection and provide incentives for efficiency?

II-2 – Health care supply & regulation - 12H – Carine Milcent (APE, PPD, SIA)

In this third part, we will delve into the intricacies of healthcare systems, their reasoning, and the impact they have on providers' actions. We will explicitly analyze the organization of healthcare provision with and without regulatory intervention, highlighting the influence of regulators on provider behavior.

We will start by presenting various financing methods and their respective limitations, and subsequently explore current solutions based on the valuable feedback observed and analyzed.

The matter of healthcare provision encompasses much more than just its financial aspect. Its availability and accessibility are equally important. This raises concerns about the types of healthcare services provided, the impact of varying access across different regions, and the inequalities arising from patients' social, economic, and living conditions. In examining these aspects of the supply of healthcare, we will examine how to take into account the interplay of cooperation and competition between healthcare providers, and the implications this has on the quality of care delivered.

Finally, the role of information systems in healthcare has become crucial. We will examine how databases impact the healthcare system and discuss the bijectivity of the relationship between databases and healthcare through the literature. Indeed, databases containing information on care providers' activities play a significant part in determining healthcare packages. Decisions regarding the inclusion of information to be coded and the method of coding directly impact healthcare providers' behavior. Databases eventually provide valuable insights to policy-makers, which influence their decisions.

Identifying social interactions: theory and applications				
Field: **Public economics & Labor** Type course: **Core**	Teacher.s: **Camille HEMET and Éric MAURIN**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

Presentation:

The course consists of 24 one-and-a-half hour sessions. The first 16 sessions (under the supervision of E. Maurin) will alternate lectures from E. Maurin and sessions in which students present illustrative academic papers. This first part of the course is similar to the first part of the course that was entitled "Labor Economics and Social Policy" up to last year (that was previously shared with T. Breda).

The subsequent 8 sessions will alternate lectures from C. Hémet and sessions in which groups of students will present research proposals in response to fictitious call of projects.

Industrial organization 1: Foundations				
Field: **Regulation, Environment & Markets** Type course: **Core**	Teacher.s: **Bernard CAILLAUD and Jean-Philippe TROPEANO**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

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. Tropéano 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.

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 2023 and the term paper is due at the end of January 2023.

Information, design and market				
Field: **Economic Theory** Type course: **Core**	Teacher.s: **Olivier TERCIEUX** **and** **Nikhil VELLODI**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

<u>Presentation:</u>

Overview for O. Tercieux's part:

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

Overview for N. Vellodi's part:

The first part of the course dealt with matching markets that operated without frictions. That is, agents could find each other, coordinate their actions, evaluate each other's quality and make/accept offers with infinite ease. We will relax these assumptions. After an introductory class over-viewing these themes, we explore what happens when agents cannot coordinate their actions. We will do so through the lens of the directed search paradigm, starting with finite games and moving to the large limit with a continuum of players. We will see how, when prices are not available, rationing (reduced probability of matching) arises as a pricing mechanism. Furthermore, we will uncover a natural link between rationing and queues.

Building on this insight, we explore dynamic frictional allocation mechanisms. Here, rather than being unable to coordinate, agents find that things take time. For instance, it takes time for agents to find each other, or to be served. To make progress, we will lay some analytical foundations by covering the basic theory of Markov chains, Poisson processes and dynamic optimization (Bellman equations and value functions). We will then explore basic queuing theory, studying the fundamental market failures and externalities involved and how one can design queues to mitigate these. We next turn to dynamic search, starting with the classic models of [Stigler], [McCall] and [Weitzman].

Having covered the fundamental theory of frictional search, we finally return to a theme from Olivier's section, namely assortative matching. We explore the conditions required (analogous to the super- and sub-modularity conditions required under frictionless search) for such sorting patterns to emerge as part of equilibrium outcomes in various frictional settings, ranging from models with random search [Shimer, Smith 2000] to directed search [Eeckhout, Kircher, 2010a].

<u>Evaluation:</u>

Final exam (to be confirmed)

International macroeconomics				
Field: **Macroeconomics** Type course: **Core**	Teacher.s: **Matthieu BUSSIÈRE and Kai ARVAI**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

Presentation:

Outline for M. Bussière's part:

What is international macroeconomics? How to write research papers? Puzzles in International Macroeconomics

1. Economic and Financial Crises
2. Global Imbalances
3. International Trade
4. Monetary policy spillovers

Outline for K. Arvai's part:

This part is about understanding models than can be useful to provide potential policy prescriptions

1. Modelling Open Economies
2. Understanding default incentives in small open economies
3. Macro Prudential policies and international capital flows

Evaluation:

Pending.

(Students must complete both parts of the course in order to earn the 6 ECTS.)

International trade				
Field: **Trade & Political Economy** Type course: **Core**	Teacher.s: **Maria BAS, Mathieu PARENTI, Sandra PONCET and Ariell RESHEF**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

<u>Presentation:</u>

Four different lecturers will cover recent developments in international trade theory and empirics.

Outline of M. Parenti's part:

1. Intra-industry trade
2. Firm heterogeneity in international trade

Outline of S. Poncet's part:

1. New Economic Geography

Outline of A. Reshef's part:

1. General equilibrium Ricardian trade theory
2. Structural gravity models
3. Quantification of gains from trade
4. GVCs and Ricardian trade theory

Outline of M. Bas' part:

1. Trade, Productivity and Markups
2. Trade and Quality
3. Trade and Labor Markets

<u>Evaluation:</u>

Grading is based on three assignments (50%) and one final exam (50%). The three assignments will be given by Profs. Parenti, Reshef and Bas, and will be weighted equally. The exam will cover material from all four professors.

Labor Economics: from Theory to Empirics				
Field: **Public Economics & Labor** Type course: **Core**	Teacher.s: **Thomas BREDA, François FONTAINE and David MARGOLIS**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

Presentation:

This course aims at giving students solid foundations in labor economics. It starts with the basic features of labor markets: labor demand (arising from the firms' profit maximization or cost minimization problems), labor supply (arising from individuals' or households trading off between leisure and consumption) and labor market equilibrium. The effects of the most basic labor market institution – the minimum wage – in the standard competitive framework and under the monopsony model are reviewed. Seminal empirical studies that evaluate the effect of the minimum wage on employment and the importance of firms' monopsony power are presented. Human capital and search models and the reservation wage concept are finally introduced.

The second part of the course expands upon the standard monopsony model by considering the possible rise of firm market power in the context of the fall of the labor shares. An emphasis is made on firm heterogeneity, which is key to understanding concentration and wage dispersion, and on the link between empirical and theoretical works. Starting first with monopsony models, it introduces progressively frictions in worker reallocation to end up with matching models with endogenous firm and job creation.

The third part will draw extensively on the two first parts as it aims at providing state of the art knowledge on selected topics, such as (i) the evolution of wage inequality and its determinants, (ii) collective bargaining and rent sharing, (iii) labor market discrimination, (iv) gender inequality at work. The objective is to give an overview of the type of empirical techniques and identification methods used in contemporaneous research while also providing usable knowledge on the selected topics (reviewing also the role of institutions, discussing approaches used in other disciplines and general policy perspectives).

This 36h course has the following structure:

- Labor demand, labor supply, equilibrium, monopsony and minimum wage, human capital and search (12h, David Margolis)
- Sources of firm market power, search and matching (12h, François Fontaine)
- Recent research on selected topics (12h, Thomas Breda)

Evaluation:

The evaluation will be based on each of the three parts, equally weighted. The evaluation for the first two parts is based on a take-home assignment, while the evaluation for the third part will be based on group presentations.

Networks Economics				
Field: **Economic Theory** Type course: **Core**	Teacher.s: **Francis BLOCH, Margherita COMOLA and Agnieszka RUSINOWSKA**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

Presentation:

The course is divided into three parts: A. Rusinovska and F. Bloch discuss theoretical issues based on Matt Jackson's 2008 book "Social and Economic Networks" complemented with more recent papers. M. Comola discusses empirical and experimental issues. The course contains applications to finance, development economics, macroeconomics and international trade.

Outline of A. Rusinowska's part:

1. Fundamental notions (network definitions, examples, etc.)
2. Non-strategic network formation models
3. Centrality measures
4. Financial Contagion

Outline of M. Comola's part:

1. Estimating peer effects with network data
2. Estimating link formation
3. Network measurement
4. Network experiments

Outline for F. Bloch's part:

1. Games on networks
2. Diffusion in networks
3. Learning in networks
4. Production and trade networks

Evaluation:

Each part will give rise to a separate evaluation (e.g., problem set or take-home assignment).
In addition, there will be a final exam for the course (2-hour open book).

Political Economy : Conflict, Institutions, media and Governance				
Field: **Trade & Political Economy** Type course: **Core**	Teacher.s: **Oliver VANDEN EYNDE and Ekaterina ZHURAVSKAYA**	TA.s: **Maximilian DOERFLER**	Course load: **36 hours** Tutorial load: **6 hours**	ECTS: **6**

Presentation:

Outline for E. Zhuravskaya's part:

- 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

Overview of O. Vanden Eynde's part:

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:

50% home assignments containing questions and replication exercises, one for each part of the course (25 % of the final grade each)

50% final exam

(Students must complete both parts of the course in order to earn the 6 ECTS.)

Public Economics				
Field: **Public Economics & Labor** Type course: **Core**	Teacher.s: **Antoine BOZIO, Julien GRENET, Thomas PIKETTY and Gabriel ZUCMAN**	TA.s: **Elvin LE POUHAER**	Course load: **36 hours** Tutorial load: **12 hours**	ECTS: **6**

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.

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: **Macroeconomics** Type course: **Core**	Teacher.s: **Tobias BROER**	TA.s: **Grégoire SEMPE**	Course load: **24 hours** Tutorial load: **18 hours**	ECTS: **6**

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 progamming and numerical analysis (Block I), 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. There may be an exam at the end of the semester, to be decided by the professors at a later date.

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

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

Advanced Topics in Environmental Economics				
Field: **Regulation, Environment & Markets** Type course: **Elective**	Teacher.s: **Mouez FODHA and Katrin MILLOCK**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

Presentation:

The course "Advanced Topics in Environmental Economics" will cover a selection of issues on the economic analysis of environmental policy, all of recent scientific interest 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:

In each class, students (potentially in groups of two, to be confirmed) will have to present a research paper that will be assigned 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.

Ageing and Public Policies				
Field: **Public economics & Labor** Type course: **Elective**	Teacher.s: **Antoine BOZIO**	TA.s: **n/a**	Course load: **24 hours** Tutorial load: **n/a**	ECTS: **3**

<u>Presentation:</u>

The course aims to provide students with an understanding of the economics of population ageing, with a particular focus on pensions.

At the end of the course, students should:

- have a knowledge of the structure of pension systems in at least one country ;
- be familiar with basic economic concepts and methods relating to demography, social insurance, pension and elderly care;
- have an understanding of some of the key behavioural effects of mandated public pension systems, including those on labour supply, saving and consumption;
- have an understanding of the main normative analysis of social insurance;
- be able to analyse, using relevant economic concepts and methods, a number of issues inpension policy, such as the relative merits of different forms of pension systems and reform options.

<u>Evaluation:</u>

To validate the course, students are required:

1. to attend all lectures and actively participate in class;
2. to read all required readings (noted by *) for all lectures;
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. Please ask during the classes if there is anything unclear in this material.

Consumer behaviour and public policies				
Field: **Behavioral Economics** Type course: **Elective**	Teacher.s: **Fabrice Étilé**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

Office hours, Fabrice Etilé: Monday 12:30 am - 16:30 pm and Thursday 14:30 pm - 18:30 pm, send a mail to get an appointment.

Presentation

This course will cover selected issues in the analysis and the regulation of consumer behaviour. It is based on case studies of food consumption, with a specific focus on the regulation of its health and environmental impacts (e.g., obesity, GHG emissions etc.). The course will include the presentation of key stylized facts, economic mechanisms and theoretical concepts, empirical techniques, important results obtained so far, and a presentation of topics at the frontier of research (by students).

Lecture 1 – Consumer behaviours and public policies: a framework

Lecture 2 – Neo-classical approach to consumer behaviour: household production theory

Lecture 3 -Empirical modelling for (price) policy analysis: demand for quantity

Lecture 4 – Empirical modelling for (price) policy analysis: demand for quality

Lectures 5 and 6 by PhD students on Animal Welfare Economics and Price Measurement

Lecture 7 – Experimental and behavioural approaches tochoices and public policies

Lecture 8 – Economics of advertising and marketing

In two sessions, students will present a literature review and a study protocol. Details of the syllabus can be found on the course's website.

Targeted audience

This is an elective course at the crossroad of consumer economics and other fields in applied economics. The course is specifically intended to be complementary to courses on health behaviours and health inequalities, economics of well-being, public economics, environmental economics, industrial organisation and empirical industrial organisation. It may be chosen by students registered in the "Economics of Human Behaviour", "Labour and Public Economics" or "Regulation, Environment, Market" research groups.

Understanding the arguments that are used in the design and analysis of policies aiming at regulating consumer behaviours is important for students interested in any issues where consumer behaviour plays a critical role. As such, this course can be useful both for students envisioning to pursue a PhD in health, environmental or consumer economics, and for those who would like to work in public institutions or NGOs in charge of sustainability and development issues. The course may also be of interest if you want to work later as a data analyst as I will offer insights on how to exploit consumer data.

<u>Evaluation (solo or group of 2)</u>

Presentation of a literature review and a protocol (50%) + writing of a research proposal based on the two presentations and feedbacks (50%)
The literature review will have (1) to introduce some key stylized facts that you may find in these papers or in another literatire (health or environmental sciences, experimental psychology, experimental philosophy etc.) (2) to focus on the analysis of a key empirical paper (presentation, critical appraisal), complemented by the review of at least 3 related articles in economics, (3) to conclude on possible extensions. The study protocol can be motivated by a theoretical model. It will have to describe the main hypothesis, the method (experimental or econometric), the data, the expected results, the expected contribution. Examples of topics:

a. Various topics in the behavioural economics of consumer demand,
b. Meat consumption (taxation, veganomics),
c. Social inequalities and the distributional effects of public policies,
d. Optimal taxation,
e. Dynamics and change in preferences,
f. The regulation of drug markets,

Demography and Macroeconomics				
Field: **Macroeconomics** Type course: **Elective**	Teacher.s: **Bertrand WIGNIOLLE**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

Presentation:

This course highlights the importance of demography in macroeconomic analysis for some long run questions. Considering first that demography is exogenous, the course presents the standard OLG model of growth and use it to traditional questions: efficiency of capital accumulation, effect of intergenerational transfers such as PAYG pension systems and public debt. The question of the optimal size of population allows a transition to the question of endogenous fertility. It also gives the opportunity to think about optimality concepts: extension of Pareto optimality, avoidance of repugnant optimal solutions. In a second part, fertility is endogenized, using the quantity-quality trade-off model of fertility. This model may explain differences in development levels. It is also a useful tool to understand some historical dynamics such as the demographic transition, following the Unified Growth Theory approach. Finally, it is possible to go one step beyond by incorporating more elements taken to family economics and collective choices theory. The decision process in the family and its impact on fertility, education, and health may play a crucial role in economic development. Moreover, it also must be considered for the design of efficient family policies.

Outline:

1. Impact of demography when it is exogenous
2. Macroeconomic consequences of endogenous fertility behaviors

Evaluation:

Final examination.

Econometric Methods				
Field: **Transversal** Type course: **Elective**	Teacher.s: **Philipp KETZ**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	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.

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 two assignments (40%; equally weighted.

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

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:

Assiduity is required for no less than 6 sessions over 8, in order to be allowed to validate.

50% two very short referee reports (equally weighted)

- Papers will be briefly discussed in class (30'), and participation to the discussion will bring a bonus to the grade.

50% one very short research project

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

<u>Presentation:</u>

This course is taught in French.

Technique et salariat :

Histoire du travail / économie du travail

- Le salariat comme forme historique d'organisation du marché du travail.
- Un champ de recherche énorme.

Une perspective générale : **la discipline au travail**

Le salariat, le travail rémunéré par un salaire, comme une forme parmi d'autres de mise au travail, de contrôle du travail, de discipline du travail.

- d'autres formes : esclavage, travail domestique, fermage/métayage, travail free lance etc. Formes concurrentes ou complémentaires. Constituent un système.
- hétérogénéité du salariat : mode de rémunération (à la pièce / au temps, en monnaie / en nature…), type de contrat (CDD/CDI, « at will », etc.), statut salarial (métiers, corporation, qualification, etc.)
- organisation social et salariat (place du salariat dans le monde grec ancien, dans le monde féodal, master and servant act, opposition entre louage d'ouvrage et louage de service, paternalisme industrielle, société salariale et Etat providence).

Un angle pour cette année : la technique comme source de discipline au travail

Discipline

- contre l'idée d'une offre de travail libre. Le travail est toujours contraint
- contre l'idée d'une contrainte imposée et choisie par les demandeurs d'emploi.
- la discipline est inscrite dans les structures sociales tout en exprimant un état historique (donc politique) des rapports sociaux.
- en particulier pas de déterminisme de la technique du salariat.

<u>Evaluation:</u>

Pending.

Economics of Gender				
Field: **Public economics & labor** Type course: **Elective**	Teacher.s: **Elena STANCANELLI**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

Presentation:

The purpose of this course is to familiarize the students with the economics of gender. This is a fast-growing area of research in economics. The focus will be on the latest methodological developments and innovative empirical approaches, which will be thoroughly presented and discussed.

Participants to the course are expected to read the papers selected for each lecture before the lecture and to participate into the discussion actively.

Participants can also propose papers to read. A debate on quotas will take place during the course.

The topics covered will include:
1. Overview of Gender Economics.
2. Gender Gaps in the Labour Market.
3. The Pros and Cons of Gender Quotas.
4. Gender Biases, Gender Stereotypes and Preferences.
5. Discrimination: Definition, Measurement (Audits, Correspondence Studies, Implicit Association Test, Anchoring Vignettes) and Policies.
6. Gender in Economics.
7. The Roots of Gender Inequality
8. Student Quota Debate & the Economics of Gender and Negotiation.
9. The Economic Costs of Gender Based Violence.
10. Household Time Allocation & Using the American Time Use Survey.

Evaluation:

The exam will consist of a short paper that students will be asked to evaluate and critically comment on.

Empirical Industrial Organization				
Field: **Regulation, Environment & Markets** Type course: **Elective**	Teacher.s: **Angelo SECCHI**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	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.

There will also be a final report, using this 3-part structure:

1. sum-up: show me that you have read and understood the paper
2. dig deep: pick one part of the paper you like (a proposition, an empirical result, ...) and get into the details
3. critique or suggestions for interesting extensions

Energy Economics and Climate Objectives				
Field: **Regulation, Environment & Markets** Type course: **Elective**	Teacher.s: **Nicolas ASTIER** **and** **Hélène OLLVIER**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

Presentation:

Decreasing drastically our carbon footprint supposes to first develop a cost-competitive clean energy supply industry, and then use exclusively such clean energy in place of fossil fuels. Both transitions translate into profound changes in billions of daily decisions. Achieving them in a reasonably efficient way thus requires a basic understanding of the incentives faced by end-consumers and firms. This course first reviews a number of the traditional debates in energy economics. It then discusses how our ambitious climate objectives are exacerbating unresolved historical challenges, as well as creating new ones, notably to decarbonize carbon-intensive usagessuch as transportation. The course consists of a mixture of theory (introduction to the main relevant models from microeconomics and industrial organization) and empirics (discussion of important or recent research papers). Special attention will be dedicated to the power industry, given the central role of electricity as the major clean energy source in the future.

Evaluation:

Grading will be based on a combination of (a subset of) homeworks, referee report writing and/or presentation of a research article, depending on class size.

Experimental Economics				
Field: **Behavioral Economics** Type course: **Elective**	Teacher.s: **Nicolas JACQUEMET**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

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.

Experimental Methods for Political Economy				
Field: **Behavioral Economics** Type course: **Elective**	Teacher.s: **Alessandra CASELLA**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

Presentation:

The purpose of this course is to give students the chance to write an original research paper in experimental economics. Experiments have become a standard tool in testing and refining theories, but designing and interpreting economic experiments requires care and practice.

During the first part I will be lecturing. In particular, in each class we will run an experiment and analyze the results. This period exposes the students to both the potential and the limitations of economic experiments, provides them with a little experience on what an experiment feels like as a subject, and gives them time to choose their research question.

During the second part of the course students will present their projects to the class. They are responsible for assigning one reading to the class as background for their presentation: the reading should be chosen in consultation with me, and made available to the class at the latest by Friday of the week preceding the presentation. During each of these classes, one other student will be chosen at random to give a brief presentation of the assigned paper.

The student whose project is under discussion will then present the proposed experimental design. The design should be as detailed as possible and ideally accompanied by a first draft of written experimental instructions. The focus of the 2 discussion will be: (1) What does the theory say about the question? (2) How does the experiment increase our understanding? How clear are the instructions? Are they feasible with minimal confusion? What are possible framing effects? (3) What questions will be put to the data? How will the data be analyzed?

During the final part of the course students will present their revised and final design and instructions, as well as their experimental results.

Evaluation:

The final paper and active participation in class are the two requirements.

Firms and Economic Performance in a Globalized Contexts				
Field: **Trade & Political Economy** Type course: **Elective**	Teacher.s: **Anne-Célia DISDIER and Sandra PONCET**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

Presentation:

This course focuses on the role of firms in shaping countries' performance in a globalized context. The availability of firm-level data has opened a new avenue for research in recent years, the role of firms has received growing attention and appears to be key. New facts that are simply unobservable at the aggregate levels have emerged. Remarkably, a handful of large firms account for most of the job, output
creation and international activity in high-income and developing countries alike. As a consequence, the pattern of performance of countries is driven by the changes in two 'margins': (1) the 'intensive margin', which refers to the average performance per firm and (2) the 'extensive margin', which refers to the number of firms actually involved in those activities. In short, phenomena as varied as aggregate
fluctuations, income inequality and comparative advantage in trade appear to be essentially driven by these few **superstar firms**. This course will document these new findings and the **empirical approach** to undercover what is called **granularity** and will discuss the implications that such findings have. The question is how granularity affects the **effectiveness of policies** to support economic performance: Should policies selectively target these high-potential firms or rather would pursuing broad-based reforms that minimize distortions more effective?

This course is composed of three interventions. The lectures by Sandra Poncet focus on the empirical analysis of granularity and its implications. After an introduction presenting these superstar firms and their key characteristics, Anne-Célia Disdier studies public policies aiming to support and frame firms' activities in globalization. Finally, Mathieu Parenti presents how firm heterogeneity affect the design of trade policies.

Evaluation:

The grade will be based on a referee report of a research paper. This research paper will cover a topic discussed in the course. A list of papers will be provided at the beginning of the course. You will have to deliver the report a few weeks after the last class.

Foreign Investment				
Field: **Trade & Political Economy** Type course: **Elective**	Teacher.s: **Ariell RESHEF**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

Presentation:

This course focuses on multinational firms in the global economy: why they arise, their pattern of activity, and consequences for domestic economies. We will touch upon topics like international outsourcing (“offshoring”), organization of production, impacts on income distribution, “global value chains”, tax avoidance and corporate tax policy. Readings are provided here, while additional readings will be provided in course slides.

Evaluation:

Pending.

General Equilibrium Theory				
Field: **Economic Theory** Type course: **Elective**	Teacher.s: **Elena DEL MERCATO and Pascal GOURDEL**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

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".

Outline for E. del Mercato's part: "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.

Outline for J-M. Bonnisseau's part: "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
- Behaviour of the firms and incomplete markets

Duration: 18 hours.

Evaluation:

Grading for EDM's part: attendance, homeworks, presentation of selected research articles and/or written exam

Grading for JMB's part: attendance & presentation of selected research articles and/or written exam

Globalization and the Environment				
Field: **Economic Theory** Type course: **Elective**	Teacher.s: **Mathieu PARENTI**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

Presentation:

The purpose of this course is to examine the complex relationship between international trade, foreign direct investment, and the environment. The lectures will cover both theoretical concepts and empirical studies. Initially, we will explore the ways in which international trade and investment have impacted pollution. We will then investigate the effectiveness of environmental policies and regulations in a highly interconnected world and assess the potential for trade policy to mitigate climate change. Additionally, we will examine how globalization shapes the incidence of global warming among countries. Finally, we will review a variety of specific environmental issues such as resource depletion, biodiversity loss, and plastic waste, which have been influenced by globalization. By the end of the course, students will have a comprehensive understanding of the challenges and opportunities presented by globalization for the environment.

Evaluation:

Each student is expected to write a research proposal. The research proposal should (i)start by motivating and expliciting a research question (ii) feature a detailed review of the literature(iii) develop a research strategy to tackle the question e.g., model, data sources, iden3fica3on and/orcalibra3on.Depending on the number of students, the evaluation will also include the presentation of a research paper.

Historical Demography				
Field: **Economic History** Type course: **Elective**	Teacher.s: **Lionel KESZTENBAUM**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	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).

Industrial organization 2: Application to Antitrust Policy				
Field: **Regulation, Environment & Markets** Type course: **Elective**	Teacher.s: **David SPECTOR**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

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.

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

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 (cancelled 2025-2026)				
Field: **Transversal** Type course: **Elective**	Teacher.s: **Hannah BULL and Philipp KETZ**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

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.

Macro and micro simulation of public policies				
Field: **Public Economics & Labor** Type course: **Elective**	Teacher.s: **Sylvain DUCHESNE, Brice FABRE and François LANGOT**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

Presentation:

This course aims at presenting techniques of simulations for public policy evaluation, from a macro and a micro perspective. The Micro and Macro simulation methods allow evaluation of both short term policies as well as structural reforms. Hence, the course will mainly focus on budgetary and fiscal policies for the short-term analyses, and reforms of pensions and health care system for the long-term analyses. By focusing on the same policy measures, the course will shed light on the complementarities between micro and macro simulation methods, thus showing that both have to be pursued to have a complete picture of the impact of a given reform.

- Microsimulation models consist in simulating a public policy at the micro-unit. The value added of these models is to capture the complexity of a public policy combined with the complexity of the population. They are used to evaluate ex ante "days after the reform effects", to characterize accurately households or firms impacted by a given reform, as well as behavioural responses to a given reform, regarding the potential exposure of a given household or firm.
- Macrosimulation models aims at going further the impact of a reform from micro-units' point of view, taking into account the implication of a large set of behavioural responses and their interactions to estimate direct and indirect impacts of a given reform on the whole economy (GDP, national income, inflation, employment, public debt, etc.).

Evaluation:

Projects on computer: coding the simulation of a policy, combined with comments linked to papers studied during the lectures. Two projects: the first for microsimulation, the second for macrosimulation.

Macro-Finance				
Field: **Macroeconomics** Type course: **Elective**	Teacher.s: **Edouard CHALLE**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

Presentation:

The course aims to acquaint students with the basics of asset pricing and the interactions between asset prices and the macroeconomy from the perspective of dynamic general equilibrium theory. The first part of the course will cover the foundations of the consumption-based asset pricing model under complete markets, the empirical/quantitative puzzles into which it runs - the equity premium puzzle, the riskfree rate puzzle and the equity volatility puzzle - and the proposed solutions to these puzzles: habit formation, recursive utility, long-run risk and disaster risk. Next, we will study how financial frictions, namely incomplete markets and credit frictions, affect asset prices and macroeconomic aggregates, notably through precautionary saving behaviour, asset bubbles, and credit cycles.

Evaluation:

Referee report (30%) and take-home exam (70%).

Mathematics for Economics				
Field: **Transversal** Type course: **Elective**	Teacher.s: **Antonin MACÉ** **and** **Nikhil VELLODI**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

<u>Presentation:</u>

Course objective -- Give a solid background in mathematics to all students contemplating graduate studies in economics, regardless of their field of specialization. The material will help students read most papers involving theoretical formalism and will provide a solid foundation for those who decide to pursue theoretical work in any field. That said, the course is designed to cover the most important topics in maths for the modern economist, rather than go into each topic in great detail.

Pre-requisites -- Students are assumed to have: 1) rigorously engaged with the review materials provided via the PSE-teaching platform, 2) had some basic mathematical training in their undergrad courses. For instance, some courses in constrained optimization, linear algebra, differential calculus.

Reading -- The primary textbooks for the course are Efe Ok's two *outstanding* books, one on real analysis and the other on measure theory. Taken at face value, these books are too advanced, so we are heavily adapting the material to better suit the present course.

<u>Grading:</u>

There will be problem sets and a final exam

Migration				
Field: **Trade & Political Economy** Type course: **Elective**	Teacher.s: **Hillel RAPOPORT**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

Presentation:

The share of foreign born has grown from 5 to 12 percent on average in OECD countries over the past 40 years. This increased diversity is both an opportunity and a challenge, economically, politically, socially and culturally, for receiving countries. Clearly, immigration has become a major public debate issue. This course will focus on the "political economy of immigration". This includes the analysis of the labor market effects of immigration as well as the broader role of immigration and diversity in determining economic performance, public attitudes (toward immigration and/or redistribution) and political outcomes (such as votes for extreme parties and populism).

The course will present recent theoretical and empirical analyses of immigration from selected studies. It is organized around a series of lectures with required readings (marked ** in the reading list below). Meetings take place twice a week during 6 weeks. Each week, a different topic will be treated. It is organized around a list of required readings. Students must prepare for the class by reading the required articles ahead of the class.

Evaluation:

50% group presentation

50% written exam

Monetary and Financial History				
Field: **Economic History** Type course: **Elective**	Teacher.s: **Pierre-Cyrille HAUTCOEUR**	TA.s: **n/a**	Course load: **24 hours** Tutorial load: **n/a**	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 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: **Trade & Political Economy** Type course: **Elective**	Teacher.s: **Carole BONNET, Florian BONNET and Anne SOLAZ**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

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, 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 lectures of 2 hours. each focusing on a specific moment of the life-cycle. Each session 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 critical report of an article on one of the eight topics and posibly also a summary on another topic.

Quantitative macroeconomics 2				
Field: **Macroeconomics** Type course: **Elective**	Teacher.s: **Tobias BROER**	TA.s: **Moritz SCHEIDENBERGER**	Course load: **9 hours** Tutorial load: **12 hours**	ECTS: **3**

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 progamming and numerical analysis (Block I), representativeagent 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.

Evaluation:

The course is graded based on computational problem sets done in groups of 2 (70%), and a final in-class exam (30 %).

The Economics of Cultural Evolution and Institutional Changes				
Field: **Globalization, Political Economy, Trade** Type course: **Elective**	Teacher.s: **Thierry VERDIER**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

Presentation:

Economists and historians have for long acknowledged the importance of "deep" factors like culture and institutions as crucial determinants of long run development and evolution of social systems. The purpose of this course is to introduce students to the recent literature that models and analyses the evolution of such factors (culture and institutions), applying the tools of economic analysis and other disciplines (evolutionary anthropology, social psychology, and political science). The course involves two parts. The first part presents the main empirical motivations, and the conceptual frameworks related to the modelling of cultural evolution, institutional change and their interactions. In the second part, students have to prepare presentations and discussions of recent papers (theoretical and/or empirical) on various topics of economics of culture and institutions, and they can as well participate into group projects to model a specific issue in the research area.

Evaluation:

40%: The students have to present and discuss in class a set of 3 papers on a topic related to the course. Alternatively, they may participate into a collaborative research project of two or three students, modelling a specific issue on a topic related to the course.

50%: The students have to submit a written paper based on their oral presentation.

10%: Participation and discussions in the course.

The Economics of Happiness				
Field: **Public Economics & Labor** Type course: **Elective**	Teacher.s: **Claudia SENIK** **and** **Andrew CLARK**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	ECTS: **3**

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 important 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.

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

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 Insurance Economics				
Field: **Regulation, Environment & Markets** Type course: **Elective**	Teacher.s: **Catherine BOBTCHEFF**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	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 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).

Urban Economics				
Field: **Public Economics & Labor** Type course: **Elective**	Teacher.s: **Laurent GOBILLON**	TA.s: **n/a**	Course load: **18 hours** Tutorial load: **n/a**	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).

M2 APE SYLLABUS – Master's thesis

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

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: **Research seminar**	Teacher.s: **Andrew CLARK and Fabrice ÉTILÉ**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

Development				
Type course: **Research seminar**	Teacher.s: **Liam WREN LEWIS and Jérémie GIGNOUX**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

Economic History				
Type course: **Research seminar**	Teacher.s: **Jérôme BOURDIEU**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

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

Macroeconomics				
Type course: **Research seminar**	Teacher.s: **Tobias BROER, Axelle FERRIERE, François FONTAINE and Gilles SAINT-PAUL**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

Public Economics and Labor				
Type course: **Research seminar**	Teacher.s: **Thomas BREDA, Camille HEMET and David MARGOLIS**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**

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

Trade and Political Economy				
Type course: **Research seminar**	Teacher.s: **Sandra PONCET, Hillel RAPOPORT and Thierry VERDIER**	TA.s: **n/a**	Course load: **36 hours** Tutorial load: **n/a**	ECTS: **6**