- Faculté des sciences économiques
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Applied Econometrics (5ER2020)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en sciences économiques, orientation politique économique	**Cours: 4 ph**	**écrit: 2 h**	6
Master en statistique	**Cours: 4 ph**	**écrit: 2 h**	6

ph=période hebdomadaire, pg=période globale, j=jour, dj=demi-jour, h=heure, min=minute

Période d'enseignement:

- Semestre Printemps

Equipe enseignante:

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Objectifs:

This course introduces a scientific, data-driven approach to the analysis of public policy and other economic issues. Hence a first objective will be to delineate instances in which data can provide evidence about a cause-to-effect relationship.

Starting from the gold standard of random assignment in an experimental setting, we will study conditions under which observational data can be used to generate causal evidence. We will emphasize how this approach to empirical work can have a very important role to play in a professional context. As a second objective, students will acquire the basic skills to carry out empirical research themselves. We will study how to apply key tools from econometrics to quantify relationships between variables of interest and learn how to interpret the results.

By the end of the class, students will be able to identify research designs that can lead to convincing and policy-relevant analysis, they will have basic software skills required to carry out empirical research themselves, and they will be trained to think critically about empirical work carried out by others.

Contenu:

The course will combine classroom teaching sessions and supervised computer lab exercises. In the classroom, we will review a number of simple econometric models, focusing mainly on extensions of the linear regression framework, and study a number of classic papers applying these methods. We will also cover basic panel data models, non-linear models for categorical variables, and instrumental variable techniques.

In the computer lab sessions, we will pay particular attention to the reporting and interpretation of results for research articles and reports. Students will learn how to manipulate data and make use of econometric techniques, mainly using Excel and Stata, and these sessions will be designed to provide tools for future professional endeavors of students. Teaching will be interactive and emphasize a hands-on approach to perform empirical research in social sciences and policy evaluation.

Forme de l'évaluation:

Mixed assessment mode based on a 1-page individually drafted research design proposal, accompanied by an in-class presentation of the argument (20% of the final grade), an individually drafted referee report on an applied article of the student's choice, with a short presentation of the report (20%), and a final 2-hour written exam during the exam session (60%). Retake: 2-hour written exam during the exam session (100% of the final grade).

Neither documents, nor connected objects are allowed during the exams. In case of violation of these rules, the students are in situation of fraud and the unauthorized items will be removed. The exam could be deemed as failed.

Documentation:

The course will loosely follow three different textbooks, which are all available from Moodle. The first two books are conceptual:

(i) Joshua D. Angrist & Jörn-Steffen Pischke (2014) Mastering Metrics: The Path from Cause to Effect, Princeton University Press;
(ii) Jeffrey Wooldridge (5th ed., 2016) Introductory Econometrics: A Modern Approach, Cengage Learning.

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The third book is an excellent resource on how to use Stata to carry out empirical research:

A. Colin Cameron and Pravin K. Trivedi (2010) Microeconometrics Using Stata: Revised Edition, Stata Press

We will also use a number of well-published articles that will be made available during class.

Pré-requis:

Having completed at least one econometrics course at the bachelor level is required. Students with background in other disciplines (incl. other social sciences) are encouraged to make an appointment with the instructor to discuss possible adjustments.

Forme de l'enseignement:

Weekly 2-hour in-class lecture and 2-hour computer lab session. The course will make use of "active learning" methods, i.e. interactive teaching drawing on prior preparation, supervised individual and group work as well as active class participation by students. Lab session will give students the opportunity to apply econometric techniques under supervision by the instructor.