Introductory Econometrics (obligatoire Majeure Economie et Majeure Pré-Doctorale Economie)

Description du contenu de l'enseignement :

The first section of this course covers the simple and multiple linear regression model. We will examine the OLS estimator and cover under which assumptions the estimator is unbiased and efficient. We will also look at statistical inference in the linear regression model and discuss the most common types of statistical tests and their implementation. Then, in the second section we will focus on three critical assumptions required for OLS estimation. For each of these assumptions, we will show what the consequences of violations of these assumptions are and what we can do if these assumptions do not hold. The final section of this courses focuses on a causal interpretation of estimates from a linear regression model. We will discuss the potential outcomes model and directed acyclic graphs as two valuable tool to clarify the assumptions needed for a causal interpretation. We will then discuss the most common sources of bias in linear regression models and briefly preview how these biases can be addressed.

Compétence à acquérir :

In this course, students will acquire a good technical understanding of linear regression. They will be able to identify the most common sources of bias in linear regression and explain how these biases affect estimates from a linear regression model. They will also be able to assess empirical research papers in economics for potential biases and whether the study plausibly addresses this bias.

Mode de contrôle des connaissances :

Written exam.

Bibliographie, lectures recommandées :

The following textbooks can provided additional background information for the material covered in this course:

Wooldridge: Introductory Econometrics

Angrist & Pischke: Mostly Harmless Econometrics

Cunningham: Causal Inference – The Mixtape
(free online version at https://mixtape.scunning.com/)

Huntington-Klein: The Effect
(free online version at https://theeffectbook.net/)

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