COURSE TITLE - INTITULE DU COURS

Course title - Intitulé du cours	Advanced panel data
Level / Semester - Niveau /semestre	Spring 2025
Teacher - Enseignant responsable	Jihyun Kim
Other teacher(s) - Autre(s) enseignant(s)	
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Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	TBA
TA Hours - Volume horaire TD	TBA
TP Hours - Volume horaire TP	TBA
Course Language - Langue du cours	English
TA and/or TP Language - Langue des TD et/ou TP	English

Teaching staff contacts - Coordonnées de l'équipe pédagogique : jihyun.kim@tse-fr.eu

Course's Objectives - Objectifs du cours :

The objective of this course is to understand various econometric methods in the area of cross section and panel data analysis used extensively in applied econometrics. The course is consist of three parts. Part I reviews linear unobserved effects panel data models. Part II covers some nonlinear panel data models. In Part III, high dimensional data analysis will be discussed.

Prerequisites - Pré requis :

Students are expected to have basic knowledge of linear algebra, statistics and econometrics.

Practical information about the sessions - Modalités pratiques de gestion du cours :

There will be no required textbook.

Grading system - Modalités d'évaluation :

Homeworks 20%; Presentation 40%; Term Paper 40%

Bibliography/references - Bibliographie/références :

Arellano, M., Panel Data Econometrics, Oxford University Press, 2003.
Wooldridge, J.M., Econometric Analysis of Cross Section and Panel Data, The MIT Press, 2010.

Session planning - Planification des séances :

Part I: Review of Linear Panel Data Models
1. Linear Unobserved Effects Panel Data Models
2. More Topics in Linear Unobserved Effects Models

Part II: Nonlinear Models
1. Review of Basic Nonlinear Models: Discrete Response Models; Censored Regression Models; Sample Selection

2. Nonlinear Unobserved Effects Panel Data Models

Part IV: High Dimensional Data
1. Overview
2. Principle Component Analysis and Factor Models
3. Ridge and LASSO
4. Applications: Interactive Fixed Effects in Linear Panel Data Models and etc.

Distance learning – Enseignement à distance :