Course title – Intitulé du cours	Topics in Econometrics and Empirical Economics
Level / Semester – Niveau /semestre	Master 2 in Economic Theory and Econometrics
School – Composante	Toulouse School of Economics
Teachers – Enseignants responsables	Jean-Pierre Florens, Thierry Magnac
Lecture Hours – Volume Horaire CM	30
TA Hours – Volume horaire TD	0
TP Hours – Volume horaire TP	0
Course Language – Langue du cours	English
TA and/or TP Language – Langue des TD et/ou TP	-

Teaching staff contacts:

Jean-Pierre Florens : jean-pierre.florens@tse-fr.eu, T.507
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Course Objectives:

The course consists of two independent parts of 15 hours each. Part 1 is taught by Thierry Magnac and Part 2 is taught by Jean-Pierre Florens.

Part 1 covers econometric applications in the fields of labor economics, education and household behavior. The course follows the construction of different econometric applications in terms of specification, identification and estimation of economic models. It illustrates how observational data and experimental data can be combined using structural economic models.

Part 2 covers inverse problems and applications. It follows the following outline:
- Introduction: Examples
- Mathematical tools
    - Topological vector spaces
    - Operators
    - Linear functions equations
    - Non linear extensions
- Three econometric examples
    - Linear models with functional variables
    - Instrumental variables
    - IV quantile models
- Treatment models where the outcome is a duration
    - Duration models
    - Causal treatment models
    - Static treatment

        o   Dynamic treatment

Prerequisites:

Economics and Econometrics at the level of M2 ETE, first semester.

Practical information about the sessions:

Students are expected to read the papers that will be discussed in class and to actively participate in class.

Grading system:

Grading policy:
- Final exam.

For each part, exam questions will preferably be related to specific papers covered (not necessarily in depth) during the lectures. The papers are announced at the end of each part.

Bibliography/references:

- For Part 1:

Alan, S., Browning, M., & Ejrnæs, M. (2018). Income and consumption: A micro semistructural analysis with pervasive heterogeneity. Journal of Political Economy, 126(5), 1827-1864.

Blundell, Richard, Luigi Pistaferri, and Ian Preston (2008), "Consumption Inequality and Partial Insurance." American Economic Review, 98 (5): 1887-1921.

Blundell, Richard, Luigi Pistaferri, and Itay Saporta-Eksten (2016), "Consumption Inequality and Family Labor Supply," American Economic Review, 106(2), 387-435.

Carvalho, J. R., Magnac, T., & Xiong, Q. (2019). College choice, selection, and allocation mechanisms: A structural empirical analysis. Quantitative Economics, 10(3), 1233-1277.

Gobillon, L., Magnac, T., & Roux, S. (2022). "Lifecycle Wages and Human Capital Investments: Selection and Missing Data", TSE Working paper 1299.

He, Y., & Magnac, T. (2022). Application costs and congestion in matching markets. The Economic Journal, 132(648), 2918-2950.

Magnac, T., N., Pistolesi & S., Roux, 2018, "Post Schooling human capital investments and the life-cycle variance of earnings", Journal of Political Economy, 126(3), 1219-1249

Magnac, T., & S., Roux, 2021, "Heterogeneity and Wage Inequalities over the Life-Cycle", European Economic Review, 134, 103715.

- For Part 2:

Carasco, M., Florens, J.P., Renault, E., 2007, "Linear Inverse Problems in Structural Econometrics. Estimation based on Spectral Decomposition and Regularization", *Handbook of Econometrics*, J. Heckman and E. Leamer, 6B, chapter 77, 5633-5751.

Carasco, M., Florens, J.P., Renault, E., 2014, "Asymptotic Normal Inference in Linear Inverse Problems", *Handbook of Non Parametric Statistics,* J. Racine, L. Su and A. Ullah (eds.), Oxford, 65-96.

Session planning :

To be announced in class.

Distance learning :

Teaching will be done in-person.