

UE1: Econometric Methods for Empirical Economics

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| Course title - Intitulé du cours | UE1: Econometric Methods for Empirical Economics |
| Level / Semester - Niveau /semestre | M2 / S1 |
| School - Composante | Ecole d'Economie de Toulouse |
| Teacher - Enseignant responsable | GUALDANI CRISTINA |
| Other teacher(s) - Autre(s) enseignant(s) | |
| Lecture Hours - Volume Horaire CM | 15 |
| TA Hours - Volume horaire TD | |
| TP Hours - Volume horaire TP | 0 |
| Course Language - Langue du cours | Anglais |
| TA and/or TP Language - Langue des TD et/ou TP | Anglais |

Teaching staff contacts - Coordonnées de l'équipe pédagogique :

- 1) Email address: cristina.gualdani@gmail.com
- 2) Office number: unknown at the moment.
- 3) Office hour: will be scheduled after the lecture timetable is arranged.
- 4) Preferred means of interactions: all types of questions, comments and suggestions during and after the lectures and during office hours are highly encouraged and more than welcome.

Comments, suggestions, and organizational questions by email are also very welcome. However, please refrain from asking econometrics questions by email. If a student cannot come to the regular office hours, then we can schedule an extra appointment by email.

Course's Objectives - Objectifs du cours :

The course covers leading methods for identifying, estimating and testing models where dependent variables have supports restricted in some important way (limited dependent variables), i.e., discrete dependent variables (e.g., employment status, transportation mode, credit rating), continuous dependent variables with strictly positive probability mass on one or more support points (e.g., hours worked, charitable contributions), dependent variables whose realisations are observed by the researcher only in some cases (e.g., top coding of wealth), and count dependent variables (e.g., number of a firm's patent per year).

By the end of the course, students should be able to: (1) discuss identification and inference in models with limited dependent variables and explain why econometric methods traditionally developed for non-limited dependent variables may fail; (2) implement the estimation of models

with limited dependent variables in Stata (or any other preferred software); (3) test the non-violation of the main assumptions characterising models with limited dependent variables.

Prerequisites - Pré requis :

It is assumed that students have a working knowledge of basic linear algebra (e.g. linear systems of equations, matrix algebra), multivariate calculus (e.g. partial derivatives, multivariate optimization), elementary probability theory (e.g. joint distributions, conditional expectations, variances and correlations), statistical inference (e.g. consistency, unbiasedness, confidence intervals, hypothesis testing), and intermediary econometrics (ordinary least squares, instrumental variable estimation, maximum likelihood estimation, generalised method of moments estimation). Elementary knowledge of identification in econometrics is welcome.

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

Laptops and tablets are accepted.

Students are expected to attend all the classes.

Grading system - Modalités d'évaluation :

Mock exam: time permitting, there will be a mock exam at the end of the course. It should represent a good preparation for the final exam. It should also be useful for students to review the class material. Solutions will be posted online together with the lecture slides.

Exam: the final course marks are exclusively determined by the closed-book final exam, which can include all material of the lectures.

Bibliography/references - Bibliographie/références :

There is no required textbook for the course, but classes often follow the notation and presentation in Wooldridge, *Econometric Analysis of Cross Section and Panel Data*: Second Edition, MIT Press, 2010. Additional articles to read will be listed during each class.