

3LECOX62 – Statistics for economics

Professor: Marie Bessec
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Department: LSO
Semester: 1

Course level: Undergraduate (LE)
Domain: Economics
Teaching language: French/English
Number of in-class hours: 36
Number of course sessions: 11 + 1
ECTS: 6

Course description and objectives

This course aims to introduce statistical estimation and tests which are essential to assess economic data and which constitute a foundation of econometric analysis. The sessions will be divided into theoretical lectures and applied exercises on economic data using Excel software.

Prerequisites

IMPORTANT: The students should be aware that this course will make a heavy use of **probability** and **calculus**. The following topics covered in earlier statistics classes are also prerequisite to follow the course.

- Univariate descriptive statistics: types of variables; univariate distribution (frequency tables and graphs); central tendency (mean) and dispersion (variance) parameters.
- Bivariate descriptive statistics: bivariate distribution (contingency, joint and conditional frequency tables); assessment of the link between two variables (scatter plot and correlation coefficient).
- Probability: random variables, conditional probability, basic laws of probability.

Learning outcomes

- Understanding the theoretical foundations of statistical inference
- Acquiring the ability to perform statistical tests on real data
- Using excel tools for sampling, estimation and testing purposes

Assignments and grading

- Mid-term exam (35%)
- Final exam (50%)
- Excel project (15%)

The numerical grade distribution will dictate the final grade. The passing grade for a course is **07/20**.

Class participation: Active class participation – this is what makes classes lively and instructive. Come on time and prepared. Class participation is based on quality of comments, not quantity.

Exam policy: In the exam, students will not be allowed to bring any document (except if allowed by the lecturer). Unexcused absences from exams or failure to submit cases will result in zero grades in the calculation of numerical averages. Exams are collected at the end of examination periods.

Course structure

Chapter 1: Surveys, inference and sampling

Chapter 2: Parametric estimation theory

Chapter 3: Parametric hypothesis testing theory I: proportion, mean and variance tests

Chapter 4: Parametric hypothesis testing theory II: comparison tests
Chapter 5: Non-parametric tests: Chi Square tests

Bibliography

- P. Tassi, Méthodes statistiques, Economica.
- M. Lejeune, Statistique : La théorie et ses applications. Springer Verlag France.

MyCourse

This course is on MyCourse: **Yes**

Academic integrity

Be aware of the rules in Université Paris Dauphine about plagiarism and cheating during exams. All work turned in for this course must be your own work, or that of your own group. Working as part of a group implies that you are an active participant and fully contributed to the output produced by that group.

Academic calendar

Dates (Monday/Sunday)	L3 ECO
02/09/19	09/08/19
09/09/19	15/09/19
16/09/19	22/09/19
23/09/19	29/09/19
30/09/19	06/10/19
07/10/19	13/10/19
14/10/19	20/10/19
21/10/19	27/10/19
28/10/19	03/11/19
04/11/19	10/11/19
11/11/19	17/11/19
18/11/19	24/11/19
25/11/19	01/12/19
02/12/19	08/12/19
09/12/19	15/12/19
16/12/19	22/12/19
23/12/19	29/12/19
30/12/19	05/01/20
06/01/20	12/01/20

L3 ECO	
1	
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Exams	
8	
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12	
Review w.	
Exams	
Holidays	