



# Faculté des sciences économiques, sociales et politiques

## ESPO

DEMO3422 Theory and practice of surveys

[20h] 3 credits

**Teacher(s):** Claude-Michel Loriaux  
**Language:** french  
**Level:** 3rd cycle course

### Aims

A command of the theoretical foundations and of the rules of carrying out surveys.

### Main themes

- Principles and definitions: populations and samples; probabilist surveys vs purposive surveys; survey errors vs errors of observation; notions of representativeness and of accuracy; and the bases of surveys and survey errors
- a review of descriptive and probabilist statistics: estimator, random variable, variance and bias; normal law and sampling distribution; from the known to the unknown: probabilist inference from samples; sampling with/without replacement; level of significance and intervals of trust.
- Simple random surveys: estimating the average of a total, or a proportion, and of a ratio; methods of sampling: random and systematic; variance and the typical errors of other parameters; determination of the required sample-size; the main ways of departing from simple random sampling.
- Stratified samples: principles and notations; the formula for estimating the total average and their sampling variance; ways of distributing sampling between strata: proportional, optimal, and identical precision.
- Surveys at several degrees: principles and notations; sampling of primary units marked by equal and unequal probabilities: estimators of the total and of the average, and of their sampling variance; cluster surveys and cluster effects; combined complex plans and estimating the effects of "design".
- A posteriori stratification.
- Special features and examples of demographic surveys.

### Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Assessment: This will look at personal or group work based on a substantive example of a real or simulated survey. Illustrations or errors in surveys on social and demographic indicators.

### Other credits in programs

<b>DEMO3DA</b>	Diplôme d'études approfondies en démographie	(3 credits)	
<b>DEMO3DS</b>	Diplôme d'études spécialisées en populations et sociétés	(3 credits)	Mandatory
<b>ESP3DS/EP</b>	Diplôme d'études spécialisées en santé publique (recherche clinique)	(3 credits)	
<b>PSY2</b>	Licence en sciences psychologiques	(2 credits)	
<b>STAT2MS</b>	Master en statistique, orientation générale, à finalité spécialisée	(3 credits)	