

Ph.D. in “Life Course Research” – Socio-Demographic curriculum

Academic Year 2026-2027

Introduction to the empirical analysis of socio-demographic phenomena (consolidation)

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Objectives

The course aims to consolidate students' knowledge of how to formulate research questions and test them empirically through applications of the generalized linear model. Methods are presented and discussed through worked examples to give students the basic tools to apply quantitative methods to answer socio-demographic research questions. Students will be introduced to using the Stata software for implementing empirical analyses with the techniques discussed in the lectures. At the end of the course, students will prepare a short paper applying the acquired knowledge and techniques to a socio-demographic research question connected to their PhD projects.

Program

Week 1

Monday 9/11 – 10:00-13:00 (Instructor: R. Guetto):

- Introduction to the course, theory-driven empirical research: formulating a research hypothesis.

Tuesday 10/11 – 10:00-13:00 (Instructor: R. Guetto):

- Bivariate associations (cross-tabs, odds ratios, chi-square test, correlation, and simple linear regression).

Wednesday 11/11 – 10:30-12:30 (Instructor: R. Guetto):

- The logic of multivariate analysis, multiple linear regression.

Wednesday 11/11 – 14:00-16:30 (Instructor: R. Guetto):

- The assumptions of multiple linear regression, introduction to factor analysis.

Thursday 12/11 – 9:00-12:00 (Instructor: R. Guetto):

- Model's specification: non-linearity, interaction effects, and mediation.

Friday 13/11 – 10:00-13:00 (Instructor: R. Luijkx):

- Discussion of students' PhD projects and ideas for short papers.

Week 2

Monday 16/11 – 10:00-13:00 (Instructor: R. Luijkx):

- Regression for categorical dependent variables.

Tuesday 17/11 – 10:00-13:00 (Instructor: R. Luijkx):

- Regression for categorical dependent variables.

Wednesday 18/11 – 10:00-13:00 (Instructor: R. Luijkx):

- Regression for categorical dependent variables.

Thursday 19/11 – 10:00-13:00 (Instructor: R. Luijkx):

- In-class work on short papers, with individual guidance available from the instructor.

Friday 20/11 – 10:00-13:00 (Instructor: R. Luijkx):

- In-class work on short papers, with individual guidance available from the instructor.

Week 3

Monday 23/11 – 10:00-13:00 (Instructor: R. Luijkx):

- In-class work on short papers, with individual guidance available from the instructor.

Tuesday 24/11 – 14:30-16:30 (Instructor: D. Vignoli):

- Causation in population science

Suggested literature

Agresti, A., & Finlay, B. (2017). *Statistical methods for the social sciences* (5th ed.). Pearson.

Corbetta, P., Gasperoni, G., & Pisati, M. (2001). *Statistica per la ricerca sociale*. Bologna, Italy: Il Mulino.

Hosmer, D. W., Jr., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied logistic regression* (3rd ed.). Wiley.

Treiman, D. J. (2009). *Quantitative data analysis: Doing social research to test ideas*. San Francisco, CA: Jossey-Bass.

Requirements

Levels of measurement of variables, descriptive statistics. Some knowledge of sample surveys, statistical hypothesis testing, and Stata software is helpful.