UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Demografia

2526-1-E4104B006

Learning objectives

The course aims at providing the knowledge to analyse qualitative and quantitative changes in a population and at identifying the determinants of these changes. The course focuses on the demographic and projection methods both at the individual and family level. The students will acquire the skills to search and use demographic data, to analyse and show demographic topics.

The course provides students with the knowledge and the skills to evaluate demographic dynamics, population change and the effects on the socio-economic and political-cultural equilibrium.

Students will acquire the tools for a critical analysis of demographic issues and their evolutions.

Knowledge and understanding.
This course allows students to acquire knowledge and understanding as follows:

- analyse qualitative and quantitative changes in a population
- definition of future demographic scenarios

Applying knowledge and understanding.
At the end of the course, students will acquire the tools to:

- write demographic report
- analyse critically the demographic evolution
- evaluate demographic dynamics, population change and the effects on the socio-economic and political-cultural equilibrium

Making judgements:
These skills will be developed through laboratory activities and the writing of the demographic report.

Communication skills:

These skills will be developed with the writing of the demographic report.

Learning skills:
On the e-learning page, students can find for each topic the chapters of the textbook, the exercises and any texts or materials for further study of the topics covered in the course in order to facilitate the study also of the non-attending students and to allow those who wish to study some topics in depth.

Contents

1. Introduction
2. Demographic data
3. Structure and size of a population
4. Growth rates in demography
5. Analysis of demographic events
6. Population projections

Detailed program

1. Introduction

2. Demographic data:
   a. national and international

3. Growth rates in Demography
   a. Arithmetic
   b. Geometric
   c. Continuous
   d. Doubling time
   e. Practice lab

4. Age and sex Structure :

a. Population pyramid
b. Population age structure indicators (ageing index, age dependency ratio)
c. Population gender structure indicators (sex ratio, gender composition)
d. Demographic trend
e. Practice lab:

5. Analysis of demographic events:
   a. Age-specific rates and crude rates
   b. Comparison between demographic rates.
   c. Lexis diagram, age last birthday, person-years lived, rates and probabilities)

6. Analysis of demographic events: mortality
   a. infant mortality
   b. mortality rates and probabilities
   c. life table
   d. demogrphic trends

e. practice lab

7. Analysis of demographic events: Fertility
   a. fertility and fecundity
   b. intensity (rates and TFR)
   c. calendar (mean age at birth)
   d. birth order
   e. demographic trends
   f. practice lab

8. Demographic Transition
   a. phases
   b. history of the world population

9. Analysis of demographic events: Migration
   a. internal and international
   b. intensity
   c. characteristics of migrants
   d. demographic trends
   e. Practice lab

10. Population projections
    a. Analytic (age and sex) method
    b. Selection of hypotheses
    c. Italian demogrphic projections ISTAT
    d. Practice lab

11. Analysis of demographic events: family formation and dissolution, households

Prerequisites

None.

Teaching methods

All lectures will be delivered in face-to-face mode with the following scheduling by type of activity:

- 23 lectures of 2 hours
- 5 exercise activities of 2 hours
- 5 practice labs of 2 hours

Lectures, exercises and practice labs. The lectures provide both theoretical issues and in-depth focus on current demographic dynamics. The exercises aim at showing the procedures of calculus for the main demographic indexes, rates and probabilities and at interpreting the results. The practice labs allow students to use real data to prepare a report on the demographic condition of a selected municipality.
If computer labs are not available, the lab hours will be delivered remotely.

Assessment methods

Written examination

The written examination consists of practical exercises (max 21 points) and theoretical open questions on the topics covered in the lecture (max 10 points). The final grade is the sum of the marks awarded to each exercise or question. This examination is aimed at testing the ability to process statistical data, the construction of demographic indicators and knowledge of the main methods of demographic analysis.

Based on a scheme provided by the teacher, students have to write a report on the demographic situation of the analysed municipality during the workshop hours. The report on the municipality assesses the student's ability to analyse and interpret real data and write a scientific report. The assessment will take into account these aspects completeness of the work, appropriateness of the comments, clarity of the presentation, correctness of the calculations end editing aspects (layout, care of text, tables and graphs).

The final grade will be obtained as a weighted average of the grades obtained in the lab report (0.3) and the written paper (0.7).

The exam will take place at the end of the course. Considered the material available to students, the exam will be the same for all the students regardless if they attended or not the course.

Textbooks and Reading Materials

Blangiardo G. C. (2025). Elementi di Demografia, Quarta Edizione Il Mulino, Bologna.

Suggested reading:
Vignoli e Paterno (a cura di) (2025). Rapporto sulla popolazione. Verso una demografia positiva. Il Mulino.

Additional readings or documents will be provided during the course on the e-learning website

Semester

II semester, approximatively from the End of February to mid-June

Teaching language

Italian.

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | REDUCED INEQUALITIES