UAB
Universitat Autònoma de Barcelona

Demographic Analysis

Code: 104254
ECTS Credits: 6

2025/2026

Degree	Type	Year
Geography, Environmental Management and Spatial Planning	OB	3

Contact

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Teaching groups languages

You can view this information at the end of this document.

Prerequisites

There are no prerequisites

Objectives and Contextualisation

The subject has three basic objectives:

a) Learning the advanced methods and techniques of demographic analysis: construction and interpretation of net moment and generation indicators for all demographic phenomena

b) Access to theoretical explanations of the evolution of the most characteristic demographic phenomena, mortality, fertility, nuptials and migrations.

c) The fondations of elaboration of a projection by components like activity of synthesis of the acquired knowledge.

Learning Outcomes

1. CM13 (Competence) Analyse the implications of sociodemographic and gender differences in carrying out a project or research work.
2. KM16 (Knowledge) Identify the main interrelationships between demographic structures and dynamics in temporal and territorial perspectives.
3. KM17 (Knowledge) Indicate the techniques and methodologies for the analysis and projection of the population at different geographical scales.
4. SM14 (Skill) Use statistical and information bases on demographic, gender and inequality aspects.

Content

PART I: ELEMENTS OF DEMOGRAPHIC ANALYSIS

1. Demographic sources on the web

1.1. Demographic sources: flows and stocks on the web

1.2. Treatment of demographic microdata from censuses, MNPs and surveys.

2. Advanced elements of demographic analysis

2.1. The representation of time in Demography: the Lexis diagram.

2.2. Optical analysis and reconstruction of longitudinal observations from cross-sectional data and vice versa

2.3. Construction of different types of rates, probabilities and proportions depending on the type of observation.

2.4. Demogrpahic indicators of structure.

2.5. Advanced analysis of the effects of age, generation and time.

2.6. Analysis by order of demographic phenomena

2.7. Phenomenal survival tables.

2.8. Demographic standardization techniques and spatial analysis of demographic indicators.

PART II: ANALYSIS OF DEMOGRAPHIC PHENOMENA

3. Mortality.

3.1. The measure of mortality: life expectancy.

3.2. Analysis of mortality by age and cause of death.

3.3. Analysis of sociodemographic factors of mortality

4. Fertility and nuptiality

4.1. Fertility measurement: synthetic period and generation indicators

4.2. Fertility by order

4.3. Analysis of reproduction indicators

4.4. The indicators of nuptiality

4.5. Explanatory theories of fertility and nuptiality

5. Migration

5.1. Demographic analysis of migration with stocks and flows.

5.2. Demographic indicators of migration.

5.3. Explanatory theories of migration.

6. Demographic approaches to social issues.

6.1. The labor market.

6.2. Education.

7. Principles of demographic projections by components.

7.1. Representation of a demographic projection in the Lexis diagram.

7.2. Application of the knowledge acquired in a five-year projection.

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Lectures	31	1.24	
Problems in compute lab	16.5	0.66	
Type: Supervised			
Individual or small groups tutoring	10	0.4	
Practical exercices	15	0.6	
Type: Autonomous			
Autonomus work on assignments	20	0.8	
Autonomus work on assignments	20	0.8	
Compulsory reading	15	0.6	
Compulsory reading	20	0.8	

The course is structured based on directed, supervised and autonomous activities where the student will learn to develop the contents of the subject with the face-to-face support of teachers at different levels.

- Guided activities: theoretical classes and face-to-face practices.

- Supervised activities: face-to-face monitoring of practices and team work

- Autonomous activities: study of the theoretical contents and resolution of exercises.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Assessment of compulsory readings on different topics of demography and gender	10	0	0	CM13, KM16, KM17, SM14
Final redaction of Assignment Reports	40	0	0	CM13, KM16,

				KM17, SM14
Partial examens	50	2.5	0.1	CM13, KM16, KM17, SM14

Activities subject to evaluation:

- Two written tests of knowledge. Weighting factor: 50 per cent of the final mark. Each test would represent 25 per cent of the final mark.

- Completion of the individual practicals carried out in the computer classroom. Weighting factor: 40 per cent of the final mark.

- Development of a group work on spatial analysis of demographic indicators. Weighting factor: 10 per cent of the final mark.

Evaluation criteria:

- This subject does not incorporate single assessment

- The final mark for the course will be the weighted average of all the activities subject to evaluation provided that each of them exceeds the mark of 4 (otherwise the part/s with a mark lower than 4 must be recovered).

- The final mark of the objective test will be the average of the two written tests provided that each of them exceeds the mark of 4 (otherwise the part/s with a mark lower than 4 must be made up).

- Students who have only completed 1/3 of the evaluable activities will be graded as "Not evaluable".

- The activities not handed in or not completed by the indicated date will be graded as "Not Presented" with a mark of 0.

- Regular attendance at theoretical and practical classes will have a positive assessment when issuing the final grade.

- The plagiarism or copy of an exercise will have a 0. The repetition of a copy will have the consequence of suspending the subject. In the event of a student committing any irregularity that may lead to a significant variation in the grade awarded to an assessment activity, the student will be given a zero for this activity, regardless of any disciplinary process that may take place. In the event of several irregularities in assessment activities of the same subject, the student will be given a zero as the final grade for this subject. Let's remember that a "copy" is considered a work that reproduces all or most of thework of oneor more classmates. "Plagiarism" is the fact of presenting all or part of a text of an author as its own, without mentioning the sources, be on paper or in digital format. See UAB documentation on "plagiarism" at: http://wuster.uab.es/web_argumenta_obert/unit_20/sot_2_01.html.

- For this subject, the use of Artificial Intelligence (AI) technologies is allowed exclusively in bibliographic and/or information search and text correction. The student will have to clearly identify which parts have been generated with this technology, specify the tools used and include a critical reflection on how these have influenced the process and the final result of the activity. Non-transparency of the use of AI in this assessable activity will be considered academic dishonesty and may lead to a partial or total penalty in the mark for the activity, or higher penalties in serious cases.

Review criteria:

The students will be able to request the revision of the notes of the evaluable activities during the week following the publication of the results and at the times established by the teacher.

- Recovery of the partial written tests, the computer classroom practices and the work on the gender dimension is foreseen before a possible final recovery.

- The final recovery of the subject will be carried out by means of a written test. Students who have completed 2/3 of the course's evaluable activities and have obtained a final mark of less than 5 points in the course will be able to sit the make-up test.

- The recovery mark will replace all the marks of the continuous assessment and cannot be higher than 5.

- In the event thattests or exams cannot be taken onsite, they will be adapted to an online format made available throughthe UAB's virtual tools (original weighting will be maintained). Homework, activities and class participation will be carried out through forums, wikis and/or discussion on Teams, etc. Lecturers will ensure that students are able to access these virtual tools, or will offer them feasible alternatives.

Bibliography

Published books. There are different introductory manuals in Spanish. Some are brief and very basic such as:

VALLIN, Jacques. (1991). *La Demografia*. Alianza Editorial. Madrid

PRESSAT, Roland. (1979). *Demografía estadística*. Ariel. Barcelona

Other much more detailed introductory manuals sorted by publication date are:

SUSINO, Joaquín (2016). La práctica del análisis demografico, Dextra, Madrid

ViNUESA, Julio y PUGA, Dolores (2007). Técnicas y ejercicios de demografía. INE, Madrid

CASELLI, Graziella.; Vallin, Jacques. & Wunsch, Gerard. (2001). Démographie: Analyse et synthèse. París: Institut National d'Etudes Démographiques

CABRÉ, Anna (1999). El sistema català de reproducció, Proa, Barcelona

REHER, David (1995). Fuentes de Información demográfica en España. Centro de Investigaciones Sociológicas, Madrid.

VINUESA, Julio i altres. (1994). *Demografía: análisis y proyecciones*. Ed. Síntesis. Madrid

LIVI BACCI, Massimo. (1993). *Introducción a la demografía.* Ariel. Barcelona

PRESSAT, Roland. (1987). Diccionario de demografía. Oikos-tau, Barcelona

TAPINOS, Georges. (1990). *Elementos de demografía.* Espasa Calpe. Madrid

PRESSAT, Roland. 1983. *El análisis demográfico*. Fondo de Cultura Económica. Madrid

LEGUINA, Joaquín. (1981) (3ª edició). *Fundamentos de demografía*. Siglo XXI. Madrid

HENRY, Louis. (1976). *Demografía*. Labor. Barcelona

Other books published in Spanish on the evolution and the current demographic situation, at an international level and in Spain, sorted by date of publication, are:

NADAL, Jordi. (1984), *La población española siglos XVI-XX,* Barcelona, Ariel

PUYOL, Rafael. (1988), *La población española,* Madrid, Síntesis

VALLIN; Jacques. (1995). *La población mundial*. Alianza Editorial. Madrid.

LIVI BACCI, Massimo. (1993). *Historia mínima de la población mundial.* Ariel. Barcelona

LIVI BACCI, Massimo. (1998). *Historia de la población europea.* Crítica.Barcelona

PUYOL, Rafael. (ed.) (1997). *Dinámica de la población en España. Cambios demográficos en el último cuarto del siglo XX.* Editorial Síntesis. Madrid.

LEAL, Jesús. (Coord). (2004). *Informe sobre la situación demográfica en España. 2004*, Madrid, Fundación Fernando Abril Martorell

FERNÁNDEZ CORDÓN, Juan Antonio and LEAL, Jesús (Coord) (2006), *Análisis territorial de la demografía española, 2006*, Madrid, Fundación Fernando Abril Martorell

Supplementary bibliography

NACIONES UNIDAS (1986): *Manual X. Técnicas indirectas de estimación demográfica*, Nueva York, Naciones Unidas.

HINDE, Andrew. (1998), *Demographic Methods*, Cornwall, arnoldo Publishers

ROGERS, Andrew and WILLEKENS, Frans .J. (Eds)(1986): *Migration and settlement. A multiregional comparative study*, Dordrecht:Reidel Publ. Co.

ROWLAND, Donald. T. (2003), *Demographic methods and concepts*, New York, Oxford University Press

SHRYOCK, Henry S. and SIEGEL, Jacob .S. (1976): *The methods and materials of Demography*, Academic Press, London.

PRESTON, Samuel H. et al. (2001), *Demography. Measuring and Modelling Population Processes*, Oxford, Blackwell Publishers

Links and additional bibliography will be provided in the classes

Software

The software that will start throughout the course is integrated by different Microsoft Office applications: Excel, Word and Access. The basic training plan will be the Excel program.

For the development of the spatial analysis of the demographic indicators we will use the free GeoDA software.

Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this link. To consult the language you will need to enter the CODE of the subject.

Name	Group	Language	Semester	Turn
(PLAB) Practical laboratories	11	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	12	Catalan	first semester	morning-mixed
(TE) Theory	1	Catalan	first semester	morning-mixed