



# UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Economiche, Aziendali e Statistiche
ACADEMIC YEAR	2021/2022
BACHELOR'S DEGREE (BSC)	STATISTICS FOR DATA ANALYSIS
SUBJECT	DEMOGRAPHY
TYPE OF EDUCATIONAL ACTIVITY	C
AMBIT	10721-Attività formative affini o integrative
CODE	02285
SCIENTIFIC SECTOR(S)	SECS-S/04
HEAD PROFESSOR(S)	BUSETTA ANNALISA      Professore Associato      Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	6
INDIVIDUAL STUDY (Hrs)	98
COURSE ACTIVITY (Hrs)	52
PROPAEDEUTICAL SUBJECTS	20581 - EXPLORATORY STATISTICS
MUTUALIZATION	
YEAR	2
TERM (SEMESTER)	2° semester
ATTENDANCE	Not mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	<b>BUSETTA ANNALISA</b> Friday      9:00      12:00      On line: Team: "Prof.ssa Annalisa Busetta - Ricevimento studenti" Codice: oziwi34. Oppure in presenza su appuntamento da concordare via email presso il II piano Dipartimento di Scienze Economiche Aziendali e Statistiche (stanza n.93a, Edificio 13) OCCORRE PRENOTARE TRAMITE PORTALE UNIPA

<b>PREREQUISITES</b>	Basics of Statistics and Mathematics
<b>LEARNING OUTCOMES</b>	<p><b>Knowledge and understanding skills</b>  Knowledge of basic methods to describe and measure demographic phenomena. It is expected that students will be able to develop the ability to understand and critically elaborate data, reports, tables and graphs that include the use of age composition and population methods.</p> <p><b>Ability to apply knowledge and understanding</b>  The ability to obtain demographic data from national (ISTAT) and international sources (United Nations, OECD and Eurostat), to calculate appropriate measures and to interpret the results obtained. Students are expected to be able to employ critically their knowledge even in relation to the phenomenon and the context they are studying. It refers, for example,- to the observation of the mobilization of individuals within and outside the national context;- to the interpretation of United Nations demographic projections; - to the analysis of changing needs of a rapidly and continuously aging population or of very young populations or of a workforce reduced by migration and mortality.</p> <p><b>Autonomy of judgment</b>  The ability to interpret autonomously the results of the statistical reports prepared by ISTAT, the United Nations and Eurostat. The nature and contents of the course are particularly geared towards achieving this goal. The main demographic trends on fertility, nuptiality, mortality and migrations are analyzed within the course, to enable the student to critically select among the various demographics methods and among the different data sources available, those most appropriate to the context in which they will operate.</p> <p><b>Communication skills</b>  Ability to expose and synthesize the results of a study. Students should be able to interpret and communicate effectively and clearly the main elements that describe the population whether they are expressed in the form of research results as well as demographic measures or graphs.</p> <p><b>Learning Capacity</b>  Upgrade ability with the consultation of demographics publications, with the selection of official data on-line and with the consequent use of the knowledge gained during the class. Critical reflection on the use of methods and on their interpretation is a characteristic and relevant element of the course.</p>
<b>ASSESSMENT METHODS</b>	<p>Testing is done through an oral exam. The examination board will be chaired by the teaching professor and at least one other Professor of similar disciplinary field.</p> <p><b>ORAL EXAM</b>  The evaluation of the oral exam will be based on the answers to demographic questions, the group work and its presentation, and a short English test. The student will have to answer to three questions: a first question is devoted to evaluate the knowledge of demographic methods. A second question is to ascertain the student's ability to select critically among the various demographic methods to analyze data and among the different available demographic sources, the most suitable for the demographic event studied (age and sex distribution, fertility, mortality, nuptiality, natural increase and migration). A third question will ascertain the knowledge and the understanding of demographics trends, the ability to interpret and evaluate them starting from the interpretation of simple graphs and / or tables.</p> <p><b>GROUP WORK AND PRESENTATION</b>  For students attending, the vote takes into account also the group work and its presentation. Group work is aimed at highlighting the ability to find data and scientific publications useful to respond to their own demographic question. Critical reflection on the right tools to answer their own demographic question is a characteristic and relevant element of the course. In the oral presentation, students should demonstrate that they are able to interpret and communicate effectively the main results of their work, whether expressed in the form of research results as well as demographic measures or graphs. The presentation of the group work will be scheduled with the attending students at least two weeks before. The presentation of the group work contributes to the award of 1 to 3 points with respect to the score achieved.</p> <p><b>FINAL EVALUATION OF TEACHING</b>  The sufficiency of the oral test will be reached when the student has shown sufficient knowledge and understanding of demographic methods. It will also evaluate the ability to describe, understand and elaborate critically tables and graphs of population structure and methods. The test is considered to be passed with a minimum vote of 18/30. The more, however, the oral exam has</p>

	<p>given evidence of knowledge and comprehension of demographics methods and trends, the more the exam will be positive evaluated. The vote also consider the presentation of the group work (from 1 to 3 points). The student who failed the examination may submit to the next call.</p>
<b>EDUCATIONAL OBJECTIVES</b>	<p>The aim of the course is to provide basic methods and techniques needed to measure and understand demographic phenomena. The student will be able to discuss issues related to the evolution of the population structure and to the dynamics of mortality, fertility, nuptiality and migration. Through the help of the population theories illustrated during the course and the use of data from the main official sources (Istat, Eurostat, United Nations, OECD), students should develop the ability to comment autonomously the main demographics trends, both nationally and internationally, through the use of tables and/or graphs of the appropriate measures. Attending students should formulate and answer to a research question through the use of sample microdata. This assignments will end with a presentation of the work to the classroom.</p>
<b>TEACHING METHODS</b>	<p>Lectures, guided class debates and presentation of a group work (only for attendants). During the course, the teacher will share with the students a short article or a book chapter in English which will be discussed with the students.</p>
<b>SUGGESTED BIBLIOGRAPHY</b>	<p>MANUALE A SCELTA TRA: - Livi Bacci M. (1999), Introduzione alla Demografia, Loescher, Torino (esclusi capitoli 13 e 14) - De Santis G. (2010), Demografia, il Mulino, Bologna</p> <p>Materiale integrativo (argomenti che saranno trattati durante il corso che NON sono presenti nei manuali consigliati): -De Santis G. (2010), Demografia, il Mulino (capitolo 11 "Le fonti e i dati") -Golini A. (1989), Popolazione, in "Enciclopedia del Novecento", vol. VIII -Caselli G. e Vallin J. (2001), Dinamica della popolazione: movimento e struttura, [in:] Caselli G. e Vallin J. Wunsch E. (a cura di), Demografia: la dinamica delle popolazioni, Carocci Editore, Roma, pp. 73-101 -Commissione per la Garanzia dell'Informazione Statistica (2002), La rilevazione delle migrazioni internazionali e la predisposizione di un sistema informativo sugli stranieri, Rapporto di ricerca 02.11 (a cura di S. Strozza, F. Ballacci, M. Natale e E. Todisco). (Capitoli 1 e 2)</p> <p>Nel corso delle lezioni verra' distribuito materiale aggiuntivo di approfondimento ai singoli argomenti.</p>

## SYLLABUS

Hrs	Frontal teaching
4	Introduction to the course. Definition and content of demography. Sources, statistics and errors.
1	Measures of population growth
4	<p>Analysis of age and sex structure of the population. Population pyramid. Relationships between structure and dynamics of a population. The first demographic transition as explanatory model of world population trends. The second demographic transition. Demographic windows.</p>
2	The balancing equation of population change. Introduction to the study of demographic events.
4	Synthetic and analytical measures (cohort and generation approach, Lexis diagram, crude and age-specific demographic rates, direct and indirect standardization).
4	<p>Mortality. Main measurements in the study of mortality (probability of death, period life tables and biometric functions, lexis point, infant mortality, mortality by cause, mortality differentials). Health and survival in recent decades (health and epidemiological transition, prolongation of life expectancy, ..). Sexual, territorial and social inequalities with regard to health and death.</p>
3	Nuptiality and divorces: theoretical perspectives and measures
4	<p>Fertility. From natural fertility to controlled fertility: the components of fertility; Puberty, menopause and sterility; The intermediate variables of fertility.</p>
4	<p>Mobility and migration Definitions, sources and measures. Internal and international migration in Italy</p>
2	Population projections
Hrs	Practice
1	Exercises on growth rates
3	Exercises on Lexis diagram
2	Exercises on mortality
2	Exercises on fertility

Hrs	Practice
12	Group work under the supervision of the teacher