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Stockholm University
Department of Sociology

Basic Demographic Methods
7.5 credits, Fall 2017
Syllabus

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Aims
Basic Demographic Methods (BDM), a course at advanced level, aims to develop students' analytical and interpretative skills by familiarizing them with basic concepts and measures in demography. Students will use, present and interpret basic demographic methods, including the life table, standardization, and population forecasting. Such knowledge is essential for work with statistical materials on populations and will be useful for most quantitative social science. As the course is based on the idea of learning by doing, attendance is essential to attain the learning outcomes.

Organization
The course is provided at full-time basis over 4.5 weeks. Teaching and learning is conducted through lectures, seminars, lab and home exercises, and a final exam.

Learning outcomes

Upon the completion of the course, the student is expected to be able to:

In terms of knowledge and understanding:
- Account for, interpret and discuss the validity of the following:
  - Simple ratios, probabilities and rates, crude and specific rates
  - Lexis diagram
  - Direct and indirect standardization
  - Cohort life table
  - Period life table
  - Reproduction rates, parity progression rates, life table applications of family dynamics

  o Life table application of migration
  o Basic cohort-component population projection

In terms of accomplishments and competence:
- Use, describe, present and compare the following:
- Simple ratios, probabilities and rates, crude and specific rates
- Lexis diagram
- Direct and indirect standardization
- Cohort life table
- Period life table
- Reproduction rates, parity progression rates, life table applications of family dynamics
- Life table application of migration
- Basic cohort-component population projection
- Link theory and demographic methods that are appropriate for a specific demographic research question.

In terms of attitudes and values:
- Search for, compare and critically review demographic data relevant for a particular research question;
- Compare and evaluate basic methods used in research on demographic questions.
- Carry out work in a responsible way, including keeping realistic time schedules

Assessment and examination

The assessment consists of eight (home/lab) exercises and one exam. *Meeting 11* on population projections and the *final exam* require obligatory attendance.

The eight exercises consist of using, describing, presenting, comparing, as well as accounting for, interpreting and discussing the validity of the following:
 1) Simple ratios, probabilities and rates, crude and specific rates.
 2) Lexis diagram
 3) Direct and indirect standardization
 4) Cohort life table
 5) Period life table
 6) Reproduction rates, Parity progression rates, life table applications of family dynamics
 7) Life table application of migration
 8) Basic cohort-component population projection (obligatory attendance)

All eight exercises need to be handed in for the fulfilment of the course. A passing score for each exercise is 3. Students who fail to pass an exercise have an opportunity to redo and resubmit the exercise within two weeks. A re-submitted exercise has a chance of being upgraded to 3. To achieve a "Pass" for this course, students are expected to receive a "Pass" in all eight exercises and the exam. The weight of exercises and the exam in the final assessment is 50% each.

	Ex 1	Ex 2	Ex3	Ex4	Ex5	Ex6	Ex 7	Ex8	Exam
Score range	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	
Passing score	3	3	3	3	3	3	3	3	
Weight in final assessment	50%								50%

The student's final achievement (based on their performance in the eight home/lab exercises and the exam) is graded to A=Excellent, B=Very good, C=Good, D=Satisfactory, E=Sufficient, Fx=Not sufficient, F=Fail.

Other information

Clean lay-out and **clear**, **convincing and correct** interpretations are necessary for a high grade in the exercises and the exam.

Students with a final grade of Fx or F are entitled to redo the examination as long as the course is provided in order to achieve grade E at least. A student with E is not entitled to another examination to raise his/her grade.

Students who received grade Fx or F on exams twice from the same examiner can request to be evaluated by another examiner. Such request should be sent to the Director of Studies.

Students can request to have examination according to this syllabus up to three semesters. Such request should be sent to the Director of Studies.

The next chance to redo the course will be the next time the course is offered (every autumn).

Literature list

Main literature

Santow, Gigi (1996). *Demographic Methodology II*. Stockholm University Demography Unit. (To be purchased at Akademibokhandeln).

Rowland, D T. (2003). *Demographic Methods and Concepts*. Oxford University Press. Oxford.

Additional readings (Reference, not compulsory)

Hartman, Michael (2007). *Demographic Methods for the Statistical Bureau*. Statistics Sweden. (To be purchased at the student office).

Weeks, John (2008). *Population: An Introduction to Concepts and Issues*. Wadsworth. Tenth edition. Chapter 4 on Demographic data, pp. 108-145; pp. 176-185, Measuring mortality; pp. 234-241, Measuring fertility.

Preston, Samuel, Patrick Heuveline, and Michel Guillot (2001). *Demography: Measuring and Modeling Population Processes*.

Additional readings on fertility analysis (Reference, not compulsory)

Ryder, N. 1986. Observations on the history of cohort fertility in the United States. *Population and Development Review* 12: 617-643.

Ní Bhrolcháin, M., 1992. Period paramount? A critique of the cohort approach to fertility. *Population and Development Review* 18: 599-629.

Van Imhoff, E., 2001. On the impossibility of inferring cohort fertility measures from period fertility measures. *Demographic Research* [Online] 5. Available http://www.demographic-research.org/Volumes/Vol5/2.

Additional readings on life-table estimation
Compulsory

Andersson, Gunnar and Dimiter Philipov, 2002. "Life-table representations of family dynamics in Sweden, Hungary, and 14 other FFS countries: A project of descriptions of demographic behavior". *Demographic Research* 7(4): 67-144. Available http://www.demographic-research.org/Volumes/Vol7/4.

Readings on population projections
Compulsory

O'Neill et al. (2001). A guide to global population projections. *Demographic Research* 4(8). http://www.demographic-research.org/volumes/vol4/default.htm

Reference for Swedish-readers (Recommended but not compulsory)

Hofsten, Erland, 1982. *Demografins grunder*, Lund: Studentlitteratur, chapter 4.1-4.7 samt kap 4.10-4.11 (25 pages). Voluntary reading for students who read Swedish.

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Schedule: **Basic demographic methods, 7.5 ECTS-credits, Fall 2017**

Meeting	Date, Time, Room	Topic	Reading Compendium	Reading Course Book
1	09/28/17, Thursday 13-15 in D315	Introduction	BMETH1 Introduction, Concepts and Measures	Ch1 Population Change
2	09/29/17, Friday 10-12 in B389	Basic Measures of Population Dynamics		Ch2 Population Growth; Ch3 Age-sex composition
2	09/29/17, Friday 13-15 in B389	Basic Measures of Population Dynamics		Ch2 Population Growth; Ch3 Age-sex composition
3	10/02/17, Monday 09-12 in B389	Lexis Diagram	BMETH2 Time as a central demographic variable	
3	10/02/17, Monday 13-16 in B389	Lexis Diagram	BMETH2 Time as a central demographic variable	
4	10/05/17, Thursday 09-12 in B389	Standardization	BMETH3 Standardization	Ch4 Comparing populations
4	10/05/17, Thursday 13-16 in B389	Standardization	BMETH3 Standardization	Ch4 Comparing populations
5	10/12/17, Thursday 09-12 in B389	Life Tables 1	BMETH4 The cohort life table	Ch6 Mortality and health, Ch8 Life tables
5	10/12/17, Thursday 13-16 in B389	Life Tables 1	BMETH4 The cohort life table	Ch6 Mortality and health, Ch8 Life tables

6	10/13/17, Friday 09-12 in B389	Life Tables 2	BMETH5 The period life table and applications	Ch9 Stable and stationary populations
6	10/13/17, Friday 13-16 in B389	Life Tables 2	BMETH5 The period life table and applications	Ch9 Stable and stationary populations
7	10/17/17, Tuesday 10-12 in E387	Measures of Fertility and Family Dynamics 1	BMETH6 Fertility; BMETH7 Nuptiality	Ch7 Fertility and the family
8	10/18/17, Wednesday 10-12 in B389	Measures of Fertility and Family Dynamics 2		
8	10/18/17, Wednesday 13-15 in B389	Measures of Fertility and Family Dynamics 2		
9	10/19/17, Thursday 10-12 in F487	Estimating Migration 1		Ch11 Migration
10	10/20/17, Friday 10-12 in B389	Estimating Migration 2		
10	10/20/17, Friday 13-15 in B389	Estimating Migration 2		
11	10/24/17, Tuesday 13-16 in B389	Projections 1		Ch12 Population projections and estimates
12	10/25/17, Wednesday09-11 in B389	Projections 2		
13	10/27/17, Friday 10-13 in B389 / B397	Examination		