

## **Basic Demographic Methods, 7.5 ECTS-credits, Fall 2012**

### **Syllabus – preliminary version**

#### **Instructors**

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#### **Contents**

Course at advanced level, aims to develop students' analytical and interpretative skills by familiarizing them with basic concepts and measures of mortality, fertility and migration as well as with basic demographic methods, including the life table, standardization, and population forecasting. Such knowledge is essential for work with statistical materials on populations.

#### **Organization**

The course is provided at full-time basis over 4,5 weeks. Teaching is conducted through lectures, seminars, and classroom and home exercises.

#### **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
  - \*Life table application of migration
  - \*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 examination consists of nine home-exercises. The student's achievement is evaluated according to A=Excellent, B=Very good, C=Good, D=Satisfactory, E=Sufficient, Fx=Not sufficient, F=Fail.

The exercises consists of using, describing, presenting, comparing, as well as accounting for, interpreting and discussing 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
- \*Life table application of migration. This exercise also includes general understanding and evaluating of the above acquired methodological knowledge.
- \*Basic cohort-component population projection

One last exercise will focus in interpreting and critically evaluating analysis performed with basic demographic methods.

All exercises include the learning outcomes in terms of attitudes and values mentioned above.

Each exercise will be scored as Fail (0), Pass (1) and Good (2).

The score Pass indicates correct answers that may include minor mistakes but where methods are correctly used and interpreted. The score Good is given when, in addition to above, the exercise is well presented (including tidy) and the answers are argued in a convincing and relevant way. Exercises which are handed in late will very rarely be graded Good.

The final grade is based on the following criteria:

- A (excellent) =17-18 points
- B (very good)=14-16 points
- C (good)=11-13 points
- D(satisfactory)= 10 points
- E(sufficient)=9 points
- Fx(insufficient)= Fail for one of the exercises
- F(fail)= Fail for two or more exercises

Students with grade Fx or F at an exam 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 degree.

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 after it has stopped to be valid. Such request should be sent to the Director of Studies.

## Literature list

### *Main literature*

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

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 (highly 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.

**Schedule: Basic demographic methods, 7.5 ECTS-credits, fall semester 2012**

<u>Meeting</u>	<u>Day</u>	<u>Date</u>	<u>Time</u>	<u>Room</u>	<u>Teacher</u>
1	<i>Fri</i>	<i>Oct 5</i>	<i>10-12</i>	<i>Y22 Geohuset</i>	Ann-Zofie Duvander
2	<i>Fri</i>	<i>Oct 5</i>	<i>13-15</i>	<i>B 389</i>	Li Ma
3	<i>Tue</i>	<i>Oct 9</i>	<i>10-12</i>	<i>Y22 Geohuset</i>	Ann-Zofie Duvander
4	<i>Wed</i>	<i>Oct 10</i>	<i>13-15</i>	<i>B 389</i>	Li Ma
5	<i>Fri</i>	<i>Oct 12</i>	<i>10-12</i>	<i>Y12/Y13</i>	Sven Drefahl
6	<i>Fri</i>	<i>Oct 12</i>	<i>13-15</i>	<i>B 389</i>	Li Ma
7	<i>Wed</i>	<i>Oct 17</i>	<i>9-11</i>	<i>F289</i>	Sven Drefahl
8	<i>Thu</i>	<i>Oct 18</i>	<i>13-15</i>	<i>B 389</i>	Li Ma
9	<i>Fri</i>	<i>Oct 19</i>	<i>10-12</i>	<i>Y22</i>	Sven Drefahl
10	<i>Mon</i>	<i>Oct 22</i>	<i>11-13</i>	<i>B 389</i>	Li Ma
11	<i>Wed</i>	<i>Oct 24</i>	<i>10-12</i>	<i>Y22</i>	Ann-Zofie Duvander
12	<i>Thu</i>	<i>Oct 25</i>	<i>10-12</i>	<i>B 389</i>	Li Ma
13	<i>Thu</i>	<i>Oct 25</i>	<i>13-16</i>	<i>Y22</i>	Lena Lundkvist (SCB)
14	<i>Fri</i>	<i>Oct 26</i>	<i>10-12</i>	<i>Y22</i>	Ann-Zofie Duvander
15	<i>Fri</i>	<i>Oct 26</i>	<i>13-15</i>	<i>B389</i>	Li Ma
16	<i>Tue</i>	<i>Oct 30</i>	<i>13-16</i>	<i>B 389</i>	Gunnar Andersson

<u>Meeting</u>	<u>Topic</u>	<u>Reading, Santow</u>	<u>Reading, Rowland</u>
			Ch1 Population change
1	Introduction (data sources, basic measures I)	BMETH1 Introduction, concepts and measures	Ch2 Population growth and decline (this chapter may be skimmed)
2	<i>Exercise 1: Excel + basic measures</i>		
	Basic measures II, Lexis diagram	BMETH2 Time as a central demographic variable	Ch3 Age-sex composition
3			
4	<i>Exercise 2: Basic measures II</i>		
		BMETH3	Ch4 Comparing populations
5	Standardization	Standardization	
6	<i>Exercise 3: Standardization</i>		
		BMETH4 The cohort life table	Ch6 Mortality and health
7	Life tables I		Ch8 Life tables
8	<i>Exercise 4: Life tables I</i>		
		BMETH5 The period life table and applications	CH9 Stable and stationary populations
9	Life tables II; Stable population		
10	<i>Exercise 5: Life tables II</i>		
		BMETH6 Fertility	Ch7 Fertility and the family
11	Fertility analysis, family dynamics	BMETH7 Nuptiality	
12	<i>Exercise 6: Fertility measures</i>		
13	Migration	-	Ch11 Migration
	<i>Exercise 7: Migration and general application</i>		
14			
			Ch12 Population projections and estimates
15	Population projections	Article: O'Neill et al	
16	<i>Exercise 8: Projections</i>		