Diploma/MSc in Official Statistics
Professional Development Programme

Diploma/MSc in Demography
Diploma/MSc in Social Statistics

DEMO6020 Demographic Methods 1

Programme, course outline
and lecture notes

29 October - 2 November 2012

University of Southampton
Highfield
Southampton

Locations

Monday
Building 45, Room 2040 9.30am – 1.00pm, 2.00pm – 4.00pm Building 65/1133 (Avenue Campus),
Tuesday
9.30am -12.00pm Building 45, Room 2040, 12.00pm – 4.00pm Building 45, Room 2039
Wednesday
Building 25, Room 1007: 9:30-11:00
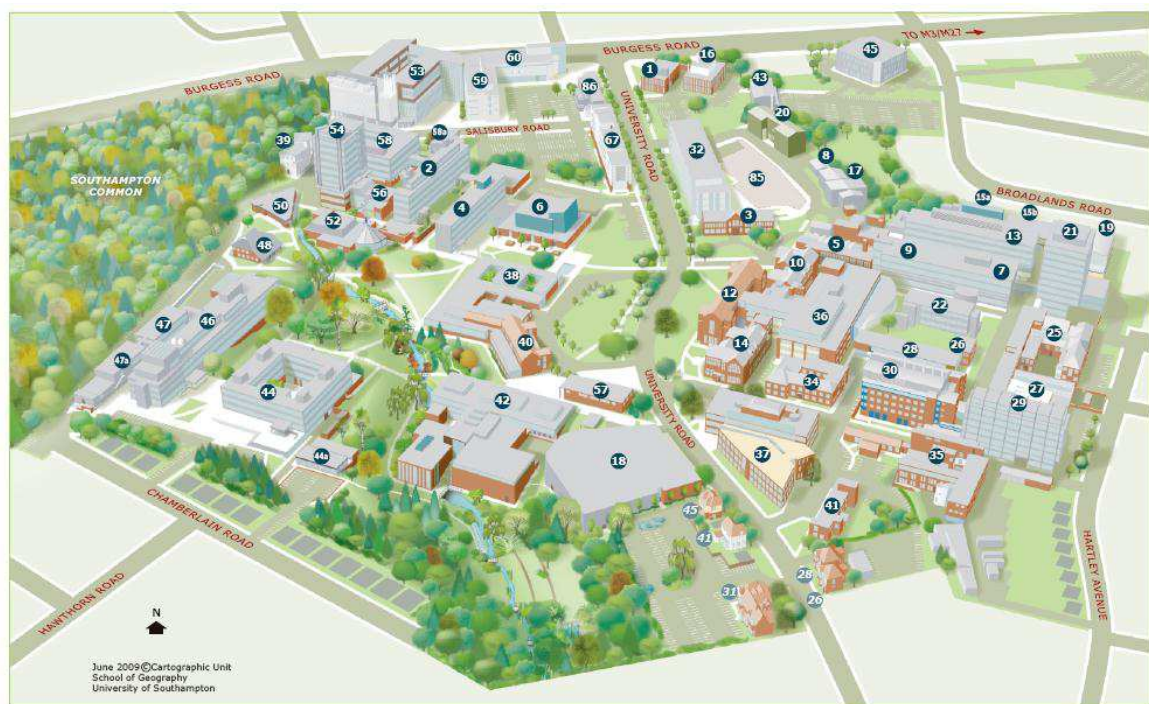Building 45, Room 2040: 11:00 – 4:00
Thursday
Building 54, Room 5025: 9:30-11:00
Building 6, Room 1081: 1:00-4:00
Friday optional tutorial
Building 39, Seminar room, 9:30-11:00

Important!
Please bring a calculator with you to all lectures and classes.

Overview of timetable, 29th October – 2nd November 2012

	Monday29th	Tuesday 30th	Wednesday 31st	Thursday 1st	Friday 2nd
	9.30am – 1.00pm Building 45/2040 **2.00pm – 4.00pm** Building 65/1133 (Avenue Campus)	**9.30am -12.00pm** Building 45/2040 **12.00pm– 4.00pm** Building 45/2039	**9.30am-11.00am** Building 25/1007: **11:00pm – 4:00pm** Building 45/2040	**9:30am-11:00am** Building 54/5025: **1:00pm-4:00pm** Building 6/1081	B39/Seminar Room
09:30 09:45	Coffee/tea	Class: demographic measurement	Computer workshop: online data sources	L7 Pop change and population estimates	Tutorial (optional)
10:00 10:15 10:30 10:45	L1 Introduction + age-sex structures	L3 Standardisation			
				Class: pop change	
11:00 11:15			Coffee/tea	Break: private study and lunch 11:00 - 1:00	
11:30 11:45	Coffee/tea	Coffee/tea	L6 Life tables		
12:00 12:15 12:30	Class: age-sex structures	Class: standardisation			
12:45					
13:00 13:15 13:30 13:45	LUNCH 12:45-2:00	LUNCH 1:00-2:00	LUNCH 1:00-2:00	L8 Lexis charts	
				Class: Lexis	
14:00 14:15 14:30 14:45	L2 Demographic measurement	L4 Sources of data L5 Pop Census	Class: life tables	L9 Pop estimates (ONS speaker)	
15:00 15:15				Exam prep and course evaluation	
15:30 15:45	Coffee/tea	Coffee/tea	Coffee/tea	Coffee/tea	
16:00 16:15 16:30 16:45 17:00 17:15 17:30	Private study	Private study	Private study	Private study	

PROGRAMME

MONDAY 29TH OCTOBER *Building 45/2040*

9:30 – 9:55	**Registration and Coffee**
9:55 - 10:00	Welcome and introduction
10:00 – 11:30	L1 Population age-sex structures
11:30 – 12:00	**Coffee/Tea Break**
12:00 – 12:45	Class: age-sex structures
12:45 – 2:00	**Lunch break**

Building 65/1133

2:00 – 3:30	L2 Demographic measurement
3:30 – 4:00	**Coffee/Tea Break**
4:00 – 5:30	Private study

TUESDAY 30TH OCTOBER *Building 45/2040*

9:30 – 10:15	Class: demographic measurement
10:15 – 11:30	L3 Standardisation
11:30 – 12:00	**Coffee/Tea Break**

Building 45/2039

12:00 – 1:00	Class: standardisation
1:00 – 2:00	**Lunch break**
2:00 – 2:45	L4 Sources of demographic data
2:45 – 3:30	L5 The population census
3:30 – 4:00	**Coffee/Tea Break**
4:00 – 5:30	Private study

WEDNESDAY 31ST OCTOBER *Building 25/1007:*

9:30 – 11:00	L6 Life tables

Building 45/2040

11:00 – 11:30	**Coffee/Tea Break**
11:30 – 1:00	Computer workshop: online data sources: *B25, Room 1007.*
1:00 – 2:00	**Lunch break**
2:00 – 3:30	Class: life tables
3:30 – 4:00	**Coffee/Tea Break**
4:00 – 5:30	Private study

THURSDAY 1ST NOVEMBER

Building 54, Room 5025: 9:30-11am

9:30 – 10:30	L7 Population change and population estimates
10:30 – 11:00	Class: population growth
11:00 – 1:00	**Break: self-study + lunch**

Building 6, Room 1081: 1-4pm

1:00 – 1:30	L8 Lexis diagrams, period and cohort perspectives
1:30 - 2:00	Class: Lexis diagrams

2:00 – 3:00	L9 Population estimates (ONS speaker)
3:00 – 4:00	Examination preparation and course evaluation
3:30 – 4:00	**Coffee/Tea Break**
4:00 – 5:30	Private study

Friday 2nd November *B39, SEMINAR ROOM*

9.30–11:00	Optional tutorial Session, Seminar Room, Building 39

Lecturer

The course co-ordinator is Dr James Brown, who will be available for consultation throughout the week.

Office	Room 3019, Building 39
Phone	023 80597169
Email	J.J.Brown@soton.ac.uk

Aims of unit

To introduce students to basic demographic methods, with particular reference to methods used in official statistics.

Learning outcomes

On successful completion of this course, you will:

(a)   be familiar with the principal sources of demographic data, together with their strengths and weaknesses;
(b)   understand the demographic significance of age structure, together with the implications of variations in age structure;
(c)   be able to specify and calculate the principal demographic measures, and understand how they are interpreted;
(d)   understand the rationale for and be able to apply methods of standardisation;
(e)   be able to construct and interpret simple life tables;
(f)   understand the essentials of population change;
(g)   be familiar with how national and local population estimates are made.

Key skills

Ability to identify online sources of demographic data

Calculators

Calculators will be provided for MOffStat students: you will be asked to sign on receipt and to return the calculator before you leave Southampton.

All other students: please bring a calculator to the course with you.

Teaching and learning methods

The course will be taught by lectures, practical classes and a computer workshop. Paper copies of the lecture slides will be handed out before the lecture. Reading is indicated in the next section of this outline.

Blackboard site

When registered for the unit, you should be enrolled automatically on the unit's Blackboard course and you can log on at: http://blackboard.soton.ac.uk/ If you do not have access to the site please let us know so that we can enrol you. The site contains the unit outline, recommended reading, details about the seminars, assignment and exam, lecture notes, and essay guidelines. Important notices including last minute changes to the programme will be posted on the site—you should therefore check in regularly to ensure you see the announcements and new materials.

Assessment methods

The course will be assessed 100% by a 2-hour examination. The examination paper is in three compulsory sections: Section A has one question and is worth 33% of the marks;

Section B has a choice of one of two questions, worth 33% of the marks; Section C has one question, worth 34% of the total marks. Feedback on examination performance will be available online at the time that results are made available.

Past examination papers are available online via the "Quick links" on the right hand side of the Library/Resources page: http://www.soton.ac.uk/library/resources/index.shtml. Note that the module has previously been known as DEMO6002, STAT6033, and ST645, and to find all past papers, you should search under all of these codes.

You should also have a look at the examination feedback from previous years, which is available online at: http://www.southampton.ac.uk/socscinet/pgt/examfeedback/. Note that you should look for the earlier course codes also.

Resit arrangements

In case of resit arrangements, you will have to take a supplementary examination.

Academic integrity

The University places the highest importance on the maintenance of academic integrity in the conduct of its affairs, and has produced a guide to issues of academic integrity for students. This can be found in the University Calendar available online at http://www.calendar.soton.ac.uk/sectionIV/part8a.html, and this is reproduced in the (School's Part 1 handbook/School's Part 2 and 3 handbook/MSc booklet[*]) available on the School of Social Sciences intranet at http://www.soton.ac.uk/socscinet. Please familiarise yourself with what is expected of you in this regard by reading through this information. Your attention is drawn particularly to Appendix 1 of the Academic Integrity Statement, which outlines those things which you must seek to avoid, including cheating and plagiarism.

If academic integrity is deemed to have been breached, there are a range of penalties that may be applied.

Troubleshooting

If you have any difficulties during the course, please approach the course co-ordinator who will be happy to help you, if she can. If this does not resolve the problem, you could discuss the issue with your programme co-ordinator: Dr James Brown and Dr Solange Corea (MSc Official Statistics) or Dr Nikos Tzavidis (MSc Demography and MSc Social Statistics).

If you have a major difficulty during the course, such as a health problem that prevents you from attending lectures, or seriously interferes with your work, you should make sure to obtain documentation of the difficulty—e.g. a medical certificate. You should then fill in a Special Considerations form and bring it with any documentation to your personal tutor for signature, and eventually to School Office for filing. The difficulty can then be taken into account when the final examination board meets.

Prof. Máire Ní Bhrolcháin

October 2012

Reading
* optional
General demographic methods
Selected sections of each of the following texts will be useful to you—you would not be expected to work through all of them, or even any one of them, from start to finish.

Preston, S.H., Heuveline, P. and Guillot, M. (2001). *Demography: Measuring and Modelling Population Processes.* Oxford: Blackwell.   HB849.4PRE
    Excellent text; more advanced than those given below

Pollard, A.H., Yusuf, F., and Pollard, G.N.(1990) *Demographic Techniques. 3rd edition.* Oxford: Pergamon Press.   HB 881 POL

    A very straightforward and useful text, though not comprehensive.

Newell, C. (1988) *Methods and Models in Demography.* London: Belhaven.
                                   HB 881 NEW
    Good, introductory text, also not comprehensive.

Siegel, J.S. (2002) *Applied Demography: Applications to business, government, law and public policy.* London: Academic Press.   HB 849.4 SIE

    Excellent on applied aspects, though with American focus and examples. See selected sections of Chapters 1, 3 and 4 on measurement, , life tables and data sources, and Chapter 9 on population estimates.

Rowland, D. (2003) Demographic methods and Concepts. Oxford: OUP
                                   HB849.4 ROW
    A good recent general text on methods

Demographic measurement and standardisation
Ní Bhrolcháin, M. (2001) Demographic measurement: general issues and measures of fertility. *International Encyclopedia of the Social and Behavioral Sciences*, Elsevier.
                              Reserve Collection Box STAT6011

Ní Bhrolcháin, M. (2001) Demographic measurement: nuptiality, mortality, migration and growth. In: *International Encyclopedia of the Social and Behavioral Sciences,* Elsevier.
                              Reserve Collection Box STAT6011

G. Wells (2002) Standardization (of rates). In: *Encyclopedia of Public Health.* Online at: http://www.enotes.com/public-health-encyclopedia/standardization-rates

Population census
Abbott, O. (2009) 2011 Census coverage assessment and adjustment methodology. *Population Trends* 137, 25-32.

White, I. (2009) The 2011 Census taking shape: methodological and technological developments. *Population Trends* 136: 64-72.

White I. and McLaren E (2008) 'The 2011 Census taking shape: the selection of topics and questions'. *Population Trends* 135: 8–19.

ONS (2012) 2011 Census – Population and Household Estimates for England and Wales, March 2011. Statistical Bulletin, 17/20 July 2012. *Available online.*

Population estimates

Ormiston-Smith, N., J. Smith and A. Whitworth (2006) An international comparative study on the use of the cohort component method for estimating national populations. *Population Trends* 125: 37-46.[1]

*ONS (2005) *Making a population estimate in England and Wales.* National Statistics Methodological Series No. 34 (document due to be updated).

Siegel, J.S. (2002) *Applied Demography: Applications to business, government, law and public policy.* London: Academic Press, Chapter 9.   HB 849.4 SIE

Small area population estimates

Bates, A. (2006) Methodology used for producing ONS's Small Area Population Estimates. *Population Trends*, **125**, 30-36.

Siegel, J.S. (2002) *Applied Demography: applications to business, government, law and public policy*. San Diego: Academic Press, Chapter 9.

*Bates, A. (2008) The development of a 'Postcode Best Fit' methodology for producing Population Estimates for different geographies. *Population Trends* 133: 28-34.

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[1] *Population Trends* was published quarterly by ONS up to the last issue in September 2011, when it was discontinued. It was an excellent source on population matters in the UK, as well as including quarterly updates of routine vital statistics series. It is available online on the ONS website at http://www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-27989 and also in the Hartley Library at HA/HB3583.