Year and Semester: 2009 Semester 2

Unit convenor: Dr. Fei Guo

[Prerequisites / Corequisites:]

DEM127 (P) and [DEM255 (P) or DEM245 (P) or 18 credit points with a GPA of 1.5 or higher]

Students in this unit should read this unit outline carefully at the start of semester. It contains important information about the unit. If anything in it is unclear, please consult one of the teaching staff in the unit.

ABOUT THIS UNIT

This unit will appeal to commerce, social science and science students, particularly those who are interested in the analysis and interpretation of quantitative data. The unit introduces a number of more advanced demographic techniques including testing the accuracy of demographic data, multiple decrement tables, estimating internal migration, advanced standardisation techniques, advanced projection techniques, and the concept of stable population and model life table. By the end of the semester, students are expected to gain knowledge of demographic analysis at a more advanced level and develop ability of assessing quality of demographic data and estimating demographic parameters using established demographic models. Students will get hands-on experience of analysing demographic data for Australia and some overseas countries. Apart from the ability to use a calculator some knowledge of Excel will be assumed. Some web-based tools will also be introduced.

The unit is worth 3 credit points.

TEACHING STAFF

Dr. Fei Guo is the unit convenor. Please feel free to contact her if you have any questions, or if there is any way in which she can assist you. Dr. Guo will be available for consultation on Tuesdays 10:30am to 12:30pm in her office located in building E4A, room 627. For other times please make an appointment by calling her on 98508445 or by sending her an e-mail on fguo@efs.mq.edu.au. A guest lecturer Ms Alison Culpin will be invited to give two lectures.
**CLASSES**

Lecture: Thursdays, 1:05pm – 2:55pm, E6A-133  
Tutorial: Thursdays, 3:05pm – 3:55pm, E8A-386 or  
Tutorial: Thursdays, 4:05pm – 4:55pm, E8A-386

The unit will involve attendance at a two-hour lecture every week and a one-hour tutorial. The lectures will be held on Thursday from 1.05pm to 2:55pm in E6A-133. Each student has been assigned to a tutorial group. Students will only be allowed to attend the tutorial to which they have been assigned. Tutorials will be held on Thursdays, 3:05pm – 3:55pm and 4:05pm – 4:55pm, in E8A-386. It is a requirement of the unit that students attend all lectures and tutorials. Attendance sheets will be circulated and it is the students' responsibility that they sign these sheets. Students are encouraged to contact Dr. Fei Guo if, due to any reason, they are unable to attend a lecture and/or a tutorial.

The timetable for classes can be found on the University web site at:  
http://www.timetables.mq.edu.au/

Please bring a calculator, lecture notes and the recommended readings to all lecturers and tutorials.

**REQUIRED AND RECOMMENDED TEXTS AND/OR MATERIALS**

There is no prescribed textbook for this unit. Students will be referred to books and other materials for the weekly lectures. Referred books will be available in the Special Reserve Section of the Library. Copies of other materials will be provided in the class or made available on unit website. It is highly recommended that students compile notes of their own based on the material covered in lectures and tutorials and from recommended readings.

It is assumed that students are familiar with the various demographic techniques taught in DEM127. To refresh their memory students may wish to consult the book *Demographic Techniques* by A.H. Pollard, Farhat Yusuf and G.N. Pollard (in particular chapters 1-3, 5, 6 and 8). This book is available in the Special Reserve Section of the Library.

**UNIT WEB PAGE**

Students may access unit materials online through the Macquarie University Online Learning Facility http://learn.mq.edu.au using your Student ID Number and your Online Learning @ MQ password.

Information about the Demography Program is at:  
iLectures

Lectures will be recorded using the iLectures system. Whilst the iLectures may provide an additional resource, students are advised that no guarantees are given in relation to the availability or quality of the sound recordings or the functioning of any related websites or links to files of recordings of lectures. Students are expected to attend the lectures on a regular basis and to compile notes during the course of the lectures. Thus any failing of the iLectures will not be accepted as grounds for appeal. Copies of a selection of the overheads shown in lectures will be made available via Online Learning @ MQ http://learn.mq.edu.au.

Note that the overheads offer only a skeletal coverage of the topics covered in lectures that must be augmented by additional note-taking during the lecture or using the recommended references. Please also note that only some of the overheads shown in lectures are available (eg. ones with key formulae or definitions or with tables of data that would be too lengthy to copy down during a lecture).

Learning Objectives and Outcomes

The main objectives of this unit include acquainting students with the concepts and methods of various advanced demographic techniques and providing them hands-on experience of analysing demographic data for Australia and other countries.

The main outcomes that students are expected to achieve from this unit include:

- knowledge of more advanced demographic techniques;
- ability to recognise the quality of demographic data;
- competence in the use of established population models and techniques;
- understanding of demographic data for Australia and selected overseas countries.

In addition to the discipline based objectives, all academic programs at Macquarie University seek to develop students’ generic skills in a range of areas. One of the aims of this unit is that students develop their skills in the following areas:

- Critical analysis skills;
- Problem-solving skills;
- Creative thinking skills;
- Communication skills.

Teaching and Learning Strategy

The teaching strategy consists of the provision of information in the weekly two-hour lectures and a one-hour weekly tutorial, both on Thursdays. Copies of overhead slides for each topic will be provided via Online Learning @ MQ. It is recommended students print a copy of the slides beforehand and bring them to the lecture. It is expected that students will attend the weekly lectures and tutorial on a regular basis and will take additional notes during the lectures.
The relationship between workload and credit points, which, for a typical competent student, is 4 hours per credit point per week. Thus, you should plan to spend, on an average, 12 hours per week on the study of demographic techniques. This includes the time spent in lectures and tutorials as well as doing assignments, exercises and independent study of the relevant demographic topics. If you consistently spend less time than that stipulated above then you are probably not studying hard enough and/or do not understand fully the requirements of this unit.

A week-by-week list of the topics covered is provided below.

### DEM356 Schedule of Lectures, Second Semester 2009

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Lecturer / Tutor</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6 Aug.</td>
<td>Introduction. Rates, ratios, life tables.</td>
<td>FG</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>13 Aug.</td>
<td>Testing the accuracy of demographic data.</td>
<td>FG</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>20 Aug.</td>
<td>Techniques of adjusting and smoothing of demographic data</td>
<td>FG</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>27 Aug.</td>
<td>Multi-decrement tables and their uses: working life tables and disease elimination tables</td>
<td>AC</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>3 Sep.</td>
<td>Nuptiality tables and the analysis of marriage</td>
<td>FG</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>10 Sep.</td>
<td>Advanced projection techniques</td>
<td>FG</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>17 Sep.</td>
<td>Methods of estimating internal migration.</td>
<td>AC</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8 Oct.</td>
<td>Stable population and use of model life tables in the estimation of demographic parameters</td>
<td>FG</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>15 Oct.</td>
<td>Class Test</td>
<td>FG</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>22 Oct.</td>
<td>Component analysis</td>
<td>FG</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>29 Oct.</td>
<td>Methods of fertility estimation</td>
<td>FG</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>5 Nov.</td>
<td>Methods of mortality estimation</td>
<td>FG</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>12 Nov.</td>
<td>Revision, conclusion and unit evaluation.</td>
<td>FG</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** (FG) Dr Fei Guo, Lecturer-in-charge, (AC) Ms. Alison Culpin
RELATIONSHIP BETWEEN ASSESSMENT AND LEARNING OUTCOMES

**Assessment Tasks**

Assessment of the student performance will be based on the following three components:

- End-of-year-examination ........................................... 60 %
- Class test ................................................................. 20 %
- Three assignments .................................................... 20 %

To pass this unit, students must obtain a satisfactory pass in the end-of-year-examination and maintain a satisfactory record of class attendance and assignments.

The final grade which will be awarded to you will be within the range: high distinction (HD), distinction (D), credit (CR), pass (P), conceded pass (PC) or fail (F). For details please refer to the *Handbook of Undergraduate Studies 2009.*

Your final assessment for the unit will be within the grade scheme given above, and will indicate the standardised numerical grade (SNG) you have achieved. Please note that the SNG is not simply a sum of your raw marks for the class work and examination, but will take into consideration other factors such as your participation in class discussions and attendance record.

**Attendance**

Students are advised that a poor record of attendance in lectures and tutorials may adversely affect the grade awarded. Satisfactory attendance in lectures and tutorials may be used to determine a marginal grade. Satisfactory attendance is 75% of tutorials and 75% of lectures for which attendance is taken. Teaching staff may refuse to mark the assignments of students who have an unsatisfactory record of attendance in lectures and tutorials or who have previously been late in submitting assignments (without satisfactory evidence of unavoidable disruption). Students who miss a lecture or a tutorial due to unavoidable disruption are advised to submit an "Application for Special Consideration" form and a professional authority form to the Student Enquiry Service. The form is on the web at: [http://www.reg.mq.edu.au/Forms/APScons.pdf](http://www.reg.mq.edu.au/Forms/APScons.pdf)

**Alignment between assessment tasks and learning objectives and outcomes.**

The three assignments are designed to help students to progress towards the learning outcomes through practising what they have learned in the lectures, assessing the quality of their understanding, and obtaining feedback which will further assist their learning. Advanced demographic techniques introduced in the lectures are incorporated into the three assignments. Assignment 1 will be returned to students before 1 September to enable students to gain an indication of their ability to handle the unit materials before the census date.
Questions in the class test and the final exam will test students’ ability of calculating demographic measures by applying advanced demographic techniques, assessing the quality of demographic data, and interpreting/analysing demographic parameters using established demographic models. The class test and the final examination will also include a small section of short answer questions to assess students’ knowledge and understanding of the advanced demographic techniques and their applications. All questions are designed to assess students’ learning outcomes listed in the above section.

Criteria and standards against which individual assessment tasks are judged

The assignments generally include multiple question parts. The maximum marks available for each part will be indicated on the assignment sheets. The class test and final examination will also incorporate multiple parts. The maximum marks available for each part will be indicated on the test/exam papers. Where a question part involves calculations the marks awarded will reflect whether the answers are correct, whether the units of measurement are stated clearly, and whether an outline of the method used to derive the answers is presented clearly. All assignments are intended to be undertaken independently and individually by students and students who collude excessively or plagiarise will incur penalties for doing so.

Students whose class test performance or attendance is affected by unavoidable disruption are advised to submit an “Application for Special Consideration" form and a professional authority form to the Student Enquiry Service. The form is on the web at: [http://www.reg.mq.edu.au/Forms/APScons.pdf](http://www.reg.mq.edu.au/Forms/APScons.pdf). Students who miss the test due to unavoidable disruption should also contact Dr. Fei Guo as soon as possible.

Details of the dates for distribution and submission of all assignments are presented in the week-by-week class schedule on the next page. All assignments are to be submitted in class at tutorial time and they will be returned to students at tutorials in the following week unless it is specified otherwise. Students who fail to submit the assignments will be given zero for the assignments unless a satisfactory document (e.g. doctor’s certificate or a letter from employer, etc.) is presented.

A 3-hour final examination for this unit will be held during the University Examination period. The final examination is designed to provide a comprehensive assessment of students’ achievement of learning outcomes. Students will be permitted to use a small battery-operated calculator with scientific functions in class test and examination. Students are also allowed to bring to class test and examination an A4 size sheet of paper with formulae and notes written on both sides of the paper. Students will not be allowed to bring dictionaries to class test and examination.

The University Examination period in the Second Half Year 2009 is from 18th November to 4th December. You are expected to present yourself for examination at the time and place designated in the University Examination Timetable. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form approximately four weeks before the commencement of the examinations. [http://www.timetables.mq.edu.au/exam](http://www.timetables.mq.edu.au/exam)
The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider applying for Special Consideration. Information about unavoidable disruption and the special consideration process is available at http://www.reg.mq.edu.au/Forms/APSCon.pdf

If a Supplementary Examination is granted as a result of the Special Consideration process the examination will be scheduled after the conclusion of the official examination period. (Individual Faculties may wish to signal when the Faculties' Supplementary Exams are normally scheduled.)

You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. All students are expected to ensure that they are available until the end of the teaching semester, that is the final day of the official examination period.

**PLAGIARISM**

The University defines plagiarism in its rules: "Plagiarism involves using the work of another person and presenting it as one's own." Plagiarism is a serious breach of the University's rules and carries significant penalties. You must read the University's practices and procedures on plagiarism. These can be found in the *Handbook of Undergraduate Studies* or on the web at: http://www.student.mq.edu.au/plagiarism/

The policies and procedures explain what plagiarism is, how to avoid it, the procedures that will be taken in cases of suspected plagiarism, and the penalties if you are found guilty. Penalties may include a deduction of marks, failure in the unit, and/or referral to the University Discipline Committee.

**STUDENT SUPPORT SERVICES**

Macquarie University provides a range of Academic Student Support Services. Details of these services can be accessed at http://www.student.mq.edu.au. Information about student support services is also available from the Business and Economics Student Services (BESS – formerly ERIC) office in E4B106 and via http://www.businessandeconomics.mq.edu.au/current_students/ug.

**CLASSROOM ETIQUETTE**

Students are expected to arrive on time, certainly before five minutes past the hour, and not to leave until the class ends. If you have a recurring problem that makes you late, or forces you to leave early, you should have the courtesy to discuss this with your lecturer/tutor. Students are expected to be quiet during lectures unless, of course, class participation is required. Mobiles should be turned off during classes; not simply set to “silent”.

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