Demographic Analysis (SYD 5135)

Professor Carlson / Spring 2016 / BEL 635 / WED 2:00-4:30PM

Students are expected to uphold the Academic Honor Code published in the Florida State University Bulletin and the Student Handbook. The Academic Honor System of the Florida State University is based on the premise that each student has the responsibility (1) to uphold the highest standards of academic integrity in the student's own work, (2) to refuse to tolerate violations of academic integrity in the university community, and (3) to foster a high sense of integrity and social responsibility on the part of the university community.

Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disabilities Resource Center; (2) bring a letter to the instructor during the first week of class, indicating the need for and type of accommodation requested.

Organization and Format: The seminar meets once per week for 150 minutes, with one 10-minute break. At each meeting, participants discuss the content, background and applications of methods of demographic analysis covered in one chapter of the course text: Preston S, Heuveline P, Guillot M. 2001. *Demography: Measuring and Modelling Population Processes*. (London: Basil Blackwell Publishers). In some weeks, additional readings and topics complement the basic text. Computer spreadsheet assignments illustrate examples using demographic data. Practice on computers with the spreadsheet assignments forms part of each class meeting. Participants must complete each assignment (spreadsheet and associated essay) independently and return it for evaluation prior to the next meeting. Course grade is based on level of mastery of material in these assignments and a final examination.

Course Objectives: At the end of the course, the student will be able to: 1) calculate standard demographic measures from original empirical data; 2) use standard demographic techniques to evaluate data quality and to make adjustments for deficiencies detected in empirical data; 3) apply standard demographic techniques for estimating missing or incomplete data; and 4) utilize standard demographic methods for making population projections.

Components of Course Grade:

THREE-FOURTH of the course grade will be based on students' calculations and written comments related to spreadsheet assignments from the course text and other readings. ONE-FOURTH of the course grade will be based on a written cumulative final examination.

COURSE SCHEDULE

Week 1 - Basic Concepts and Measures
• Spreadsheet assignment on population growth rates

**Week 2 - Age-Specific Rates and Probabilities**

• Preston et al. Chapter 2
• Spreadsheet assignment on standardizing rates

**Week 3 - The Life Table and Single Decrement Processes**

• Preston et al. Chapter 3
• Spreadsheet assignment on life table construction
• Spreadsheet assignment on decomposing life expectancy

**Week 4 - Multivariate Survival Time Models**

• Stata + Excel Spreadsheet assignment on non-proportional hazards

**Week 5 - Multiple Decrement Processes**

• Preston et al. Chapter 4
• Spreadsheet assignment on causes of death

**Week 6 - Fertility and Reproduction**

• Preston et al. Chapter 5.
• Spreadsheet assignment on fertility measures

**Week 7 - Population Projection**

• Preston et al. Chapter 6
• Spreadsheet assignment on population projection

**Week 8 - The Stable Population Model**

• Preston et al. Chapter 7
• Spreadsheet assignment on intrinsic growth/stable population
**Week 9 - Demographic Relations in Non-stable Populations**

- Preston et al. Chapter 8
- Spreadsheet assignment on variable-‘r’ for marital survival
- Spreadsheet assignment on variable-‘r’ for incomplete reporting

**Week 10 - Modeling Age Patterns of Vital Events**

- Preston et al. Chapter 9
- Spreadsheet assignment on modelling mortality at the oldest ages
- Websheet assignment on fitting curves to age-specific fertility schedules

**Week 11 - Methods for Evaluating Data Quality**

- Preston et al. Chapter 10
- Spreadsheet assignment on Brass techniques

**Week 12 - Indirect Estimation Methods**

- Preston et al. Chapter 11
- Spreadsheet assignment on indirect mortality estimation
- Spreadsheet assignment on indirect fertility estimation

**Week 13 - Multistate Increment-Decrement Processes**

- Preston et al. Chapter 12
- Spreadsheet assignment on multistate increment-decrement life tables

**Final Examination - Examination Due Monday, April 25 by 5 PM.**

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