

Sociology 6230

Techniques of Demographic Analysis

Dr. Eric Reither
Utah State University, Fall 2017
Wednesdays, 4:30-7:00 p.m.
Old Main 207

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Overview:

Sociology 6230 will introduce you to basic and some intermediate techniques of demographic data analysis. These techniques are used to study population characteristics and dynamics such as mortality, fertility, growth and momentum. By the end of the course, you will know how to calculate and interpret demographic measures that are frequently used in social science, epidemiology and many other disciplines. You will also learn about key sources of demographic data and apply techniques of demographic analysis to those data through assignments and a group research project.

Calculus is not a prerequisite for this course, nor is it featured on assignments or exams. However, I will use continuous notation periodically to enrich your understanding of some fundamental demographic concepts. One of your texts (Preston, Heuveline and Guillot 2001) also makes regular use of continuous notation. I encourage you to browse through the first few chapters of any Calculus text to aid your studies in this course.

Like other social scientists, demographers rely on computer programs to help with analyses that are computationally intensive. In this course, you may use statistical software to analyze data for your research project. However, we will emphasize more rudimentary technologies like calculators and spreadsheets in our day-to-day work, as these tools will require that you learn the material deeply. Once you master the material at this level, you will have little difficulty learning how to compute and interpret these measures using statistical software.

Broadly stated, the objectives of this course are to:

1. Learn fundamental principles that underlie the study of populations;
2. Gain factual knowledge about basic and intermediate techniques of demographic analysis;
3. Develop a core set of skills and competencies needed by population researchers;
4. Apply course material by conducting original research;
5. Enhance skills in professional collaboration by working with a research team.

REQUIRED TEXTBOOKS, ADDITIONAL READINGS AND SUPPLIES

Required Textbooks

Preston, Samuel H., Patrick Heuveline, and Michel Guillot. 2001. *Demography: Measuring and Modeling Population Processes*. Blackwell Publishers: Malden, MA.

Palmore, James A., and Robert W. Gardner. 1994. *Measuring Mortality, Fertility and Natural Increase: A Self-Teaching Guide to Elementary Measures*. Fifth Edition. East-West Center: Honolulu.

Additional Readings

Periodically throughout the course, I will assign additional readings. I will announce these readings in advance of the date that I expect you to read them. Whenever possible, I will make these readings available electronically.

ADDITIONAL ASSISTANCE AND SPECIAL NEEDS

I encourage students who anticipate or experience difficulties with the course to contact me for additional assistance. If you have a documented disability and need reasonable accommodation to participate in this course, please visit with me immediately.

Additional information regarding university policies on special accommodations, academic freedom and integrity, the grievance process, and withdrawal policies can be found online at: <http://www.usu.edu/provost/faculty-life/syllabus.cfm>. Please contact me if you have questions.

EVALUATION AND GRADING POLICY

Grades will be awarded based on assignments, two exams and a group research project.

Your grade will be determined via the following scale:

		A = 460-500 points (92-100%)
		A- = 450-459 points (90-91.9%)
		B+ = 435-449 points (87-89.9%)
		B = 410-434 points (82-86.9%)
		B- = 400-409 points (80-81.9%)
		C+ = 385-399 points (77-79.9%)
		C = 360-384 points (72-76.9%)
		C- = 350-359 points (70-71.9%)
		D+ = 335-349 points (67-69.9%)
		D = 300-334 points (60-66.9%)
		F = 0-299 points (0% to 59.9%)
Assignments	150 points	
Exam 1	100 points	
Final Exam	100 points	
Research Paper	100 points	
Research Presentation	50 points	
Total	= 500 points	

COURSE SYLLABUS

Complete all readings by the adjacent date. Most listed readings are from the required texts: Palmore and Gardner is abbreviated as **PG**; Preston, Heuveline and Guillot is abbreviated as **H**. Specific information about assignments and some supplementary readings is not provided here. We will average about one assignment per week during the semester.

Week One: Introduction

August 30 Readings: None

Week Two: Basic Measures of Demographic Change

September 6 Readings: PG, chapter 1 (all); H, chapter 1 (all)

Week Three: Age-Specific Rates and Age Standardization

September 13 Readings: PG, chapter 2, pp. 9-34; H, chapter 2 (all)

Week Four: The Life Table, Part I

September 20 Readings: PG, chapter 2, pp. 35-61; H, chapter 3, pp. 38-53

Week Five: The Life Table, Part II

September 27 Readings: H, chapter 3, pp. 53-70

Week Six: Research Proposal Presentations and Review for Exam 1

October 4 Readings: none

Week Seven: Exam 1

October 11 No Class (date for exam 1 to be determined)

Week Eight: Multiple Decrement Processes

October 18 Readings: H, chapter 4 (all)

Week Nine: Measures of Fertility, Part I

October 25 Readings: PG, chapter 3, pp. 63-125

Week Ten: Measures of Fertility, Part II and Basic Measures of Migration

November 1 Readings: H, chapter 5, pp. 92-116; migration readings TBA

Week Eleven: Population Projection and Stable Population Models

November 8 Readings: H chapter 6 (all); H chapter 7 (optional)

Week Twelve: Age-Period-Cohort (APC) Models

November 15 Readings:

Yang Y, Land KC. 2013. *Age-Period-Cohort Analysis: New Models, Methods, and Empirical Applications*. Chapters 1-2. Taylor & Francis Group. Boca Raton, FL.

Mason KO, Mason WM, Winsborough HH, Poole WK. 1973. "Some Methodological Issues in Cohort Analysis of Archival Data." *American Sociological Review* 38:242-58.

Reither EN, Hauser RM, Yang Y. 2009. "Do birth cohorts matter? Age-period-cohort analyses of the obesity epidemic in the United States." *Social Science & Medicine* 69:1439-48.

Bell A, Jones K. 2014. "Don't birth cohorts matter? A commentary and simulation exercise on Reither, Hauser, and Yang's (2009) age-period-cohort study of obesity." *Social Science & Medicine* 101:1439-48.

Reither EN, Masters RK, Yang Y, Powers DA, Zheng H, Land KC. "Should age-period-cohort studies return to the methodologies of the 1970s?" *Social Science & Medicine* 128:356-65.

Week Thirteen: Thanksgiving Break

November 22 No Class

Week Fourteen: An Introduction to Survival Analysis

November 29 Readings: TBA

Week Fifteen: Final Research Presentations and Review for Final Exam

December 6 Readings: none

SOC 6230 Final Exam time and date TBA.