

Econ 198: Applied Economic Demography

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Office Hours: by appointment

Office: ...

Class Hours: M 15:00-18:00

Class Room: ...

Course Description

People are born. Then they move around. Then they die. These three phenomena are major determinants of a country's population and its composition ultimately affects growth, employment, and development outcomes. This course introduces you to basic theories and measures in economic demography, with an emphasis on applied data analysis. The first part of the course focuses on macro issues and models along the intersection of population, growth, and development. A significant portion of the course discusses typical demographic measures of fertility, migration, and mortality, as well as government policies that directly influence these processes. Finally, the course delves into the effects of demographic change on political behavior and the labor market.

The course possesses an international orientation—it will cover and discuss demographic trends in Europe, the United States, East Asia, Latin America, and the Philippines. The course might also feature 1-2 researchers or policymakers in this area.

Required Materials

- No specific textbooks. Please refer to the separate reading list on Moodle.

Prerequisites/Corequisites

1. **Formal Prerequisites:** Econ 101 (intermediate Macro); Econ 102 (intermediate Micro)
2. **Preferred and Helpful Prerequisites:** any elementary-level Statistics course (Stat 101/Soc Sci 103/etc.); Econ 131 (Econometrics)
3. Access to a laptop or computer with a stable internet connection is necessary for successful participation.

4. Exposure to R and RStudio is helpful but not necessary.
5. This class is taught seminar style. Contributions from the class are therefore expected during our meetings.

Important Course Announcement

SYNCHRONOUS CLASS SCHEDULE: MONDAYS 3-6 PM

I will record synchronous classes and upload the recording each week. It will remain accessible on the course site for the whole semester. Video lectures may accompany each week depending on time and logistical constraints (e.g. if there is a need to explain a concept further or we skipped some parts during the online class). The Zoom meeting link for all class activities is [here](#). (Alternatively: Meeting ID: 737 618 7180. Passcode: 7376187180)

Course Objectives

Successful students are able to:

1. GLO1: Show fluent understanding of the basic concepts, models, and tools in economic demography
2. GLO2: Discuss the seminal and recent empirical contributions in the economic demography literature
3. GLO3: Discuss government interventions on population policy including promoting/reducing fertility, raising/lowering the retirement age, and encouraging/discouraging migration.
4. GLO4: Familiarize themselves with R and R Studio and write readable and replicable codes for analysis of demographic data

Grading Policy

The typical NC State grading scale will be used. I reserve the right to curve the scale dependent on overall class scores at the end of the semester. Any curve will only ever make it easier to obtain a certain letter grade. The grade will count the assessments using the following proportions:

- 30% for 2 in-class quizzes (15% each).
- 30% for 2 data analysis problem sets (15% each).
- 30% for the Final Research Paper
- 10% for the Research Dissemination Activity (by cluster)

Course Schedule

- **Part 1. Demography and the Economy**

1. Economic Demography: Aims and Scope
Macroeconomic Ideas I: Optimum Population Theory
Method: Data Collection and Management in R
2. Macroeconomic Ideas II: Population, Growth, and Development
(Malthus, Boserup, Solow, Endogenous Growth Theory)
Method: Basic Descriptive Analysis
3. Demographic Concepts I: Social Change from a Life Course Perspective (Lexis)
Method: Introduction to Survival Analysis I: KM Survival Curves and Diagnostics
4. Demographic Concepts II: Theories of Demographic Transition
Method: Introduction to Survival Analysis II: Cox Proportional Hazards Model

- **Part 2. Determinants of Demographic Change**

1. Determinants of Fertility Behavior
Method: Introduction to Survival Analysis III: Piecewise Survival Models
2. Family Dynamics and Intergenerational Relationships
3. Mortality Rates and Measures
4. Migration: Theories and Trends

- **Part 3. Frontiers: Projections, Policies, and Politics**

1. Getting Old Before Getting Rich? Introduction to Population Projections
Method: Data Visualization; Population Pyramids
2. Public Policies, Population Dynamics, and Development (Population Control, Early Childhood Interventions, Parental Leaves, Pension Systems, and Elderly Care)
3. Demographic Change and Political Behavior
4. Demographic Change and Labor Market Dynamics