

Demographic Methods Spring 2025

FINAL EXAM Due by May 05, 2025 (Monday) at 11:59pm Percent of final grade: 20%

Instructor information

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Submission

This assignment should be submitted through Turnitin within Canvas. Turnitin is an online database system designed to help instructors <u>detect plagiarism</u>, track citations, facilitate peer reviews, and provide paperless grading markup in written assignments. Students should develop this assignment <u>individually</u>.

Purpose

This assignment aims to evaluate your ability to apply written communication, as well as empirical and quantitative skills through analysis and commentary on a variety of demographic topics. Drawing from scientific theories and data-driven insights, your annotations should reflect a comprehensive understanding of each topic and engage with relevant quantitative frameworks where applicable.

Students should use scientific theoretical frameworks and methods discussed in the classroom to support their analysis and not rely on preconceptions and perceptions we might have about specific demographic subjects.

By completing this assignment, you will demonstrate proficiency in written communication and the application of empirical data to support arguments. These skills are essential in analyzing complex demographic phenomena within the scope of population studies.

General information

Select two of the six sections listed below and discuss the topics explained in each of them. Focus on clarifying concepts, presenting analyses, and interpreting quantitative results. Utilize the specific references provided in each section for comprehensive insights. Feel free to add additional references throughout your analysis.

The document should be on US Letter paper size, one-inch margins, Arial font, size 11, 1.5 line spacing, and **between 1,500 and 2,000 words in total**.



1. Fertility decline

Graham (2021) aims to analyze the state of theory and explanation in contemporary demography. He focused the analysis on studies dealing with low fertility in Europe.

Discuss how the author argues that different demography conceptions and concepts to deal with fertility lead to different research approaches. How do critical theories challenge demographers to think in new ways?

Why is it important for demographers to engage with theoretical frameworks and the philosophy of social sciences? How would that approach improve explaining and understanding the demographic subject, instead of simply quantifying and describing?

- Reference

Graham E. 2021. "Theory and explanation in demography: The case of low fertility in Europe." **Population Studies: A Journal of Demography**, 75(1): 133–155. (<u>https://doi.org/10.1080/00324728.2021.1971742</u>)

2. Fertility and COVID-19

Based on discussions during our lectures, what do you expect will be the effect of the coronavirus pandemic on fertility trends and levels in the next few years?

You should utilize frameworks of predicting fertility and proximate determinants of fertility (available in lecture slides from Bongaarts 1978, 1982) to support your analysis. You can discuss the effects of the pandemic on different fertility indicators, such as age-specific fertility rates and total fertility rate.

- Reference

Adelman, Sarah; Charifson, Mia; Seok, Eunsil; Mehta-Lee, Shilpi S.; Brubaker, Sara G.; Liu, Mengling; Kahn, Linda G. 2023. State-specific fertility rate changes across the USA following the first two waves of COVID-19. Human Reproduction, 38(6): 1202–1212. (<u>https://doi.org/10.1093/humrep/dead055</u>)

Extra readings about fertility

Bongaarts J., Sobotka T. 2012. "A demographic explanation for the recent rise in European fertility." **Population and Development Review**, 38(1): 83–120.

Yoo S.H. 2022. "Total number of births shrinking faster than fertility rates: Fertility quantum decline and shrinking generation size in South Korea." **Asian Population Studies**, 1–22.

3. Mortality and COVID-19

Based on discussions during our lectures, what do you expect will be the effect of the coronavirus pandemic on mortality trends and levels in the next few years?

You should also discuss possible effects of the pandemic on life expectancy, including contextual and broader socioeconomic and cultural effects, as well as more immediate factors.

- Reference

Schöley J., Aburto J.M., Kashnitsky I., Kniffka M.S., Zhang L., Jaadla H., Dowd J.B., Kashyap R. 2022. "Life expectancy changes since COVID-19." Nature Human Behaviour, 6: 1649–1659. (<u>https://doi.org/10.1038/s41562-022-01450-3</u>)



Extra reading about mortality

Heuveline P. 2023. "Interpreting changes in life expectancy during temporary mortality shocks." **Demographic Research**, 48(1): 1–17.

4. Internal migration and COVID-19

Discuss how COVID-19 might influence internal migration trends within the United States over the next few years.

- References

Frey, William H. 2023. Americans' local migration reached a historic low in 2022, but long-distance moves picked up. Washington, DC: The Brookings Institution. (https://www.brookings.edu/articles/americans-local-migration-reached-a-historic-low-in-2022-but-long-distance-moves-picked-up/)

Rogers, Luke; Perry, Marc; Spell, Lindsay. 2023. **Domestic outmigration from some urban counties slowed, smaller gains in rural counties**. Washington, DC: Census Bureau. (https://www.census.gov/library/stories/2023/03/domestic-migration-trends-shifted.html)

5. Migration theories and models

Discuss how the proposed theories and models to forecast international migration provide an improvement from previous perspectives.

- Reference

Bijak J. 2006. "Forecasting international migration: Selected theories, models, and methods." **Central European Forum for Migration Research (CEFMR) Working Paper**, 4/2006: 1–56. (Only chapters 4 and 5).

Extra readings about migration

- Amaral, Ernesto F.L. 2024. **Development of a Computer Model of International Migration to the U.S.** College Station: Texas A&M University.
- Klabunde A., Willekens F. 2016. "Decision-making in agent-based models of migration: State of the art and challenges." **European Journal of Pouplation**, 32: 73–97.
- LeSage J.P., Fischer M.M. 2016. "Spatial regression-based model specifications for exogenous and endogenous spatial interaction." In: **Spatial Econometric Interaction Modelling**, edited by R. Patuelli, and G. Arbia. New York: Springer International Publishing AG, 15–36.
- Massey DS, Arango J, Hugo G, Kouaouci A, Pellegrino A, Taylor JE. 1994. "An evaluation of international migration theory: The North American case." Population and Development Review, 20(4): 699–751.
- Massey DS, Espinosa KE. 1997. "What's driving Mexico-US migration? A theoretical, empirical, and policy analysis." American Journal of Sociology, 102(4): 939–999.



6. Projection

Discuss the United Nations methods to estimate and project populations, including its limitations and possible improvements.

- Reference

United Nations. 2022. Methodology of the United Nations Population Estimates and Projections. New York: United Nations. UN DESA/POP/2022/DC/NO.6, July 2022. (Only chapter 2).

Extra readings about projection

Azose J.J. Sevcíková H, Raftery A.E. 2016. "Probabilistic population projections with migration uncertainty." **PNAS**, 113(23): 6460–6465.

Raftery A.E., Sevcíková H. 2023. "Probabilistic population forecasting: Short to very long-term." International Journal of Forecasting, 39: 73–97.