

SOCI 626 Demographic Methods
Winter 2021
Fridays 2:35pm-4:25pm

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Office hours: Fridays 10-11 am or by appointment
<https://mcgill.zoom.us/j/86062209469?pwd=VE1qM2NYN09BS3N1WE05dkxwdEpJZz09>

Course description:

This is a survey course in basic techniques that are widely used in demographic analysis. These include techniques that describe population structure, analyze demographic dynamics, and evaluate demographic data. The aim of this course is to introduce you to these various demographic methods, to understand their strengths and weaknesses, and to see how these techniques may be applicable to your own research.

There are no specific pre-requisites for this course. I will assume you have a basic knowledge of demography and social science research. If you have not had a specific class in demography you may want to pick up a textbook to use as a reference (e.g. Weeks, John R. 2012. *Population: An Introduction to Concepts and Issues.*). The library has some of these books on its shelves.

Some basic math skills (adding, subtracting, division, multiplication, exponentiation, etc) are necessary to be successful. You do not need to be a “stats” person, only willing to look at and work with tables, numbers, and simple formulae.

Online learning environment for Winter 2021. This semester will be completely online. We will hold synchronous lectures via zoom during the regularly scheduled class period (Fridays, 2:35-4:25pm Montreal time). This will allow you to ask questions as they come up—something I think crucial for grasping methods. I will record the lectures and post them on myCourses if you are not able to make class or want to review the material.

Course website:

We will make use of the course website through myCourses. Readings not in the textbook may be posted there and I will use the email feature for most email communications.

Required text:

Rowland, D. T. 2003. *Demographic Methods and Concepts*. Oxford: Oxford University Press.

You can buy the book on amazon.ca or directly from the [publisher](#). You can also purchase or rent an e-version of the textbook from www.vitalsource.com or www.redshelf.com.

I have used this book in the past so older graduate students in the sociology program may have a copy they are willing to loan or rent.

This book comes with a CD containing additional exercises. Some of these will be included in the homework. If you have problems reading or accessing the CD material we can find a solution but you must let me know as soon as possible.

Alexander, Monica. 2020. *D is for demography*.

https://github.com/MJAlexander/d_is_for_demography

This is a fun introduction to many of the ideas that are central to demographic analysis.

Additional readings can be found electronically through myCourses or the library. If not, they will be made available to students either through the myCourses website or as an email attachment.

You will need a calculator for this class. Most, if not all, the calculations will only require a basic calculator like the one on your cell phone or computer.

You may want to download *Population Handbook* from the Population Reference Bureau to use as an additional reference. <http://www.prb.org/Publications/Reports/2011/prb-population-handbook-2011.aspx>

Course requirements: The course requirements are non-negotiable. If you know you cannot meet them, do not take this course.

1. Mid-term Exam (20%). There will be one mid-term exam. This is a timed, open-book exam and will cover all material presented up to this date. You will have 6 hours to complete the exam over a 48 hour period. The exam will be made available on myCourses starting at 2:35pm (Montreal time) on February 12th and must be submitted on myCourses by 2:35pm (Montreal time) on February 14th. Once you open the exam you will have 6 hours to complete it. If you experience technical difficulties or other unexpected circumstance that prevent you from submitting your exam on time please email me as soon as possible.
2. Final Exam (35%). There will be an open-book, cumulative final exam. You will have 6 hours to complete the exam. The exam will be made available on myCourses starting at 4:25pm (Montreal time) on April 16th and must be submitted on myCourses 6 hours after you have started the exam. It must be completed by 2:30pm on Thursday, April 29th. If you experience technical difficulties or other unexpected circumstance that prevent you from submitting your exam on time please email me as soon as possible.
3. Homework (30%). There will be 6 homework assignments (each worth 5%) throughout the semester. Every student must turn in their own assignment, but I encourage students to work together on completing them. These are graded Satisfactory or Unsatisfactory. Homework should be emailed to me by the start of the class period in which they are due. You may need to include equations in your homework. You can do this using the equation editor in Word.

- “Where has demography gone?” presentation (15%). Each student will do short (~20 minute) presentation on how the discipline of demography has changed. Students will select and comment on a Presidential Address from a previous Annual Meeting of the Population Association of America (PAA). The presentation should include a brief summary of the main argument in the address. Comments could be updates of the data, reflections on how “right” or “wrong” the address was, dimensions that were lacking from the original argument, and/or extensions of the original address.

Grading:

Mid-term Exam	20%	A	85-100%
Final Exam	35%	A-	80-84%
Homework (6*5)	30%	B+	75-79%
Presentation	<u>15%</u>	B	70-74%
	100%	B-	65-69%
		C+	60-64%
		C	55-59%
		D	50-54%
		F	0-49%

POLICIES

“In accord with McGill University’s Charter of Students’ Rights, students in this course have the right to submit in English or in French any written work that is to be graded.” (approved by Senate on 21 January 2009 – see also the section in this document on Assignments and evaluation.)

- «Conformément à la Charte des droits de l’étudiant de l’Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté (sauf dans le cas des cours dont l’un des objets est la maîtrise d’une langue).»

Make-up exam policy.

Note: The exams cannot be made up. If you know you will miss either exam do not take this course.

Email. There are three key points regarding email for this class.

- To communicate with you I will most likely use the email tool on myCourses. It is your responsibility to check this email account (or have it forwarded to an account you use more regularly). It is also your responsibility to ensure that I receive any messages from you. I recommend sending messages through myCourses to ensure your messages to me from a non-McGill account are not mistaken as SPAM.
- Email is a written document and should be treated as a permanent record of communication. Each email should be addressed specifically (e.g. Dear Dr. Brauner-Otto,) and include your name as a closing. I will not respond to emails that do not have these components, are not written in complete sentences (e.g., no texting shortcuts), or if the answer to your question is

- in the syllabus. If you have read the syllabus but do not understand something make that clear in your email.
- I typically respond to emails within 24 hours. If you have not heard from me after 24 hours you may email me again to make sure I received your message.

Academic misconduct. “McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/integrity for more information).”

«L'université McGill attache une haute importance à l'honnêteté académique. Il incombe par conséquent à tous les étudiants de comprendre ce que l'on entend par tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le Code de conduite de l'étudiant et des procédures disciplinaires (pour de plus amples renseignements, veuillez consulter le site www.mcgill.ca/integrity).” »

Academic misconduct of any sort will not be tolerated. If I find evidence of any academic misconduct for any activity in this class I will report the offense to the Office of the Dean of Students and they will determine the appropriate sanction.

Academic misconduct includes, but is not limited to deceptive acts such as the following: cheating, fabrication (lying), falsification, multiple submission, plagiarism, complicity, or violation of departmental or college rules. Signing in for another student on an attendance sheet is considered academic misconduct.

Announcements and updates.

You are responsible for all announcements and updates made in class and on myCourses (this includes items on the Discussion Board and those posted as Announcements), as well as for all course materials given out in class. You should also check for new announcements or material on myCourses at least weekly. I recommend having myCourses send you a daily update so you do not miss anything important.

Policy Concerning the Rights of Students with Disabilities

“If you have a disability please contact the instructor to arrange a time to discuss your situation. It would be helpful if you contact the Office for Students with Disabilities at 398-6009 before you do this.”

Policy for the Accommodation of Religious Holy Days

“1 Students are not to be penalized if they cannot write examinations or be otherwise evaluated on their religious holy days where such activities conflict with their religious observances. (...) 2 Students who because of religious commitment cannot meet academic obligations, other than final examinations, on certain holy days are responsible for informing their instructor, with two weeks’ notice of each conflict. (...)”

3 When the requested accommodation concerns a final examination, students are responsible for advising their faculty office as soon as possible and not later than the deadline for reporting

conflicts. Additional documentation confirming their religious affiliation may be requested.”
(Approved by Senate - November 20, 1996 - Minute 92)

In the event of extraordinary circumstances beyond the University’s control, the content and/or evaluation scheme in this course is subject to change.

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Course Outline (subject to change)

Week 1. January 8

Introduction to the course, syllabus, and other planning

Week 2. January 15

Demographic data, growth, rates, and probabilities

Rowland Chapters 1 and 2

Alexander, Monica. 2020. *D is for demography*.

https://github.com/MJAlexander/d_is_for_demography

Recommended:

Canada, Statistics. 2010. "2011 Census - About the Census: History of the Census of Canada." Retrieved August 27, 2013 (<http://www12.statcan.gc.ca/census-recensement/2011/ref/about-apropos/history-histoire-eng.cfm#a9>).

Duncan, G.J. 2008. "[When to Promote, and When to Avoid, a Population Perspective](#)." *Demography* 45(4): 763-784.

Merli, M.G. and A.E. Raftery. 2000. "[Are Births Underreported in Rural China? Manipulation of Statistical Records in Response to China's Population Policies](#)." *Demography* 37(1): 109-126.

Rehner, R.R., F.R. Furstenburg, A.A. Belzer. 1999. "[How Much Do We Count? Interpretation and Error-Making in the Decennial Census](#)." *Demography* 36(1):121-134.

Yu Xie. 2000. "[Demography: Past, Present, and Future](#)." *Journal of American Statistical Association* 95: 670-673.

Lam, David. 2011. "[How the World Survived the Population Bomb: Lessons From 50 Years of Extraordinary Demographic History](#)." *Demography* 48(4):1231–62.

Becker, S. 2013. "Has the World Really Survived the Population Bomb? (Commentary on "How the World Survived the Population Bomb: Lessons From 50 Years of Extraordinary Demographic History")." *Demography* 50(6):2173-2181.

Lam, David. 2013. "Reply to Stan Becker, "Has the World Really Survived the Population Bomb? (Commentary on "How the World Survived the Population Bomb: Lessons from 50 Years of Extraordinary Demographic History")"." *Demography* 50(6):2183-2186.

Bloom. 2011. 7 Billion and Counting. *Science* 333(562): 562-569.

Population 9 Billion? 2011. *Science* (333) pg 540-543

James. India's Demographic Change: Opportunities and Challenges. 2011. *Science* (333): pg 576-580.

Lee, R. The Outlook for Population Growth. 2011. *Science* (333): pg 569-573.

Lutz, W. Global Human Capital: Integrating Education and Population. 2011. *Science* (333): pg 587-592.

Week 3. January 22

HW 1 Population growth due

Age-sex composition

Rowland Chapter 3

Recommended:

Knodel, J. 1999. "[Deconstructing Population Momentum](#)." *Population Today* 27(3):1-27.

Week 4. January 29

Standardization, periods, and cohorts

Rowland Chapter 4

Recommended:

Chen, Alice, Emily Oster, and Heidi Williams. 2016. "Why is infant mortality higher in the United States than in Europe?" *American Economic Journal: Economic Policy* 8(2): 89-124.

Frejka and Calot. 2001. "[Cohort Reproductive Patterns in Low-Fertility Countries](#)." *Population and Development Review* 27(1): 103-132.

Heilig, G.K. 2006. "[Many Chinas? The economic diversity of China's provinces](#)." *Population and Development Review* 32(1):147-161.

Jasso (1985) "[Marital coital frequency and the passage of time: Estimating the Separate Effects of Spouses' Ages and Marital Duration, Birth and Marriage Cohorts, and Period Influences](#)." *American Sociological Review*, 50(2):224-241.

Jasso (1986) "[Is It Outlier Deletion or Is It Sample Truncation? Notes on Science and Sexuality](#)." *American Sociological Review*, 51(5):738-742.

Kahn & Udry (1986) "[Marital Coital Frequency: Unnoticed Outliers and Unspecified Interactions Lead to Erroneous Conclusions](#)." *American Sociological Review*, 51(5):734-737.

Lam, David, Deborah Levison. 1992. "[Age, Experience, and Schooling: Decomposing Earnings Inequality in the United States and Brazil](#)." *Sociological Inquiry*, 62 (2): 220-245.

Park, J. and D. Myers. 2010. "[Intergenerational Mobility in the Post-1965 Immigration Era: Estimates by an Immigrant Generation Cohort Method](#)." *Demography* 47(2):369-392.

Ryder, N. 1965. "[The Cohort as a Concept in the Study of Social Change](#)." *American Sociological Review* 30(6):843-861.

Smith, Morgan & Koroapeckyj-Cox. 1996. "[A decomposition of trends in the nonmarital fertility ratios of blacks and whites in the United States, 1960-1992](#)" *Demography* 33(2):141-151.

Yang, Yang. 2008. "[Social Inequalities in Happiness in the US 1972-2004: An Age-Period-Cohort Analysis](#)." *American Sociological Review* 73: 204-226.

Week 5. February 5

HW 2 Standardization due

Mortality

Rowland Chapter 6

Recommended:

Murray & Lopez. 1997. "[Mortality by cause for eight regions of the world: Global Burden of Disease Study.](#)" *The Lancet* 349(9061):1269-76.

Preston, S.H. & H. Wang. 2006. "[Sex mortality differences in the United States: The role of cohort smoking patterns.](#)" *Demography*, Volume 43: 631–646

Week 6. February 12

HW 3 Mortality due

Catch up and review

Week 7. February 19

Mid-term exam

Week 8. February 26

Fertility

Rowland Chapter 7

Family

Chapters 8 and 9 in Newell, Colin. 1988. *Methods and Models in Demography*, New York: Guildford Press. (pdf available on myCourses)

Fertility Recommended:

Bhrolcháin, M.N. 2011. "[Tempo and the TFR.](#)" *Demography* 48(3): 841-861.

Bongaarts and Casterline. 2013. Fertility Transition: Is sub-Saharan Africa Different? *Population and Development Review* 38(s): 153-168.

Bongaarts. 2001. Fertility and Reproductive Preferences in Post-Transitional Societies. *Population and Development Review* 27S:260-281.

Goldstein, Joshua R., Toma Sobotka & Aiva Jasilioniene. 2009. "[The end of lowest-low fertility?](#)" *Population and Development Review* 35(4):663-699.

Oppenheim Mason, K. 1997. Explaining Fertility Transitions. *Demography* 34(4):443-454.

Schoen, R. 2004. "[Timing Effects and the Interpretation of Period Fertility.](#)" *Demography* 41(4): 801-819.

Stover, John. (1998) "[Revising the Proximate Determinants of Fertility Framework: What Have we Learned in the Past 20 years?](#)" *Studies in Family Planning* 29:255-267.
For additional background you may want to also read: Bongaarts, J. and G.

Feeney. 1998. “[On the Quantum and Tempo of Fertility](#).” *Population and Development Review* 24(2): 271-291.

Family Recommended:

- Goldscheider, Bernhardt, and Lappgard. 2015. The Gender Revolution: A Framework for Understanding Changing Family and Demographic Behavior. *Population and Development Review* 41(2):207-239.
- Goldstein, Joshua & Catherine Kenney. 2001. “[Marriage Delayed or MarriageForgone? New Cohort Forecasts of First Marriage for U.S. Women](#).” ASR 66(4):506-519.
- Almond, Edlund, and Milligan. 2013. Son Preference and the Persistence of Culture: Evidence from South and East Asian Immigrants to Canada. *Population and Development Review* 39(1): 75-95.
- Lam and Marteletto. 2008. “[Stages of the Demographic Transition from a Child's Perspective](#).” *Population and Development Review* 34: 225-252.
- Ruggles, Steven & Susan Brower. 2003. “[Measurement of household and family composition in the United States, 1850-2000](#).” *Population and Development Review* 29(1):73-101.

Reading week. March 1-5

Week 9. March 12

HW 4 Fertility and family due

Life tables

Rowland Chapter 8

Recommended:

- Bloom, D. and D. Canning. 2000. “[The Health and Wealth of Nations](#)” *Science* 287:1207-1209.
- Eloundou-Enyegue, P. 2004. “[Pregnancy-Related Dropouts and Gender Inequality in Education](#).” *Demography* 41(3): 509-528.
- Schoen, Landale, Daniels, and Cheng. 2009. “[Social Background Differences in Early Family Behavior](#).” *Journal of Marriage and Family* 71 (May 2009): 384–395
- Wildeman, C. 2009. “[Parental Imprisonment, the Prison Boom, and the Concentration of Childhood Disadvantage](#).” *Demography* 46(2):265-280.

Week 10. March 19

HW 5 Life tables due

Stable and stationary models

Rowland Chapter 9

Recommended:

- Alho, J.M. 2008. "[Migration, Fertility, and Aging in Stable Populations](#)." *Demography* 45(3): 641-650.
- Preston, S.H. 1982. "[Relations between Individual Life Cycles and Population Characteristics](#)." *American Sociological Review* 47(2): 253-264.
- Gurven and Kaplan. 2007. Longevity Among Hunter-Gatherers: A Cross-Cultural Examination. *Population and Development Review* 33(2):321-365.
- Bongaarts. 2006. How long will we live? *Population and Development Review* 32(4): 605-628.
- Oeppen and Vaupel. 2002. Broken Limits to Life Expectancy. *Science*. 296(5570):1039-1031.

Week 11. March 26

HW 6 Stable and stationary models due

Migration

Rowland Chapter 11

Population projections

Rowland Chapter 12

Migration Recommended:

Abel and Sander. 2014. Quantifying Global International Migration Flows. *Science* 343(6178):1520-1522.

Basia Zaba. 1987. "[The Indirect Estimation of Migration: A Critical Review](#)," *International Migration Review*, Special Issue: Measuring International Migration: Theory and Practice. Vol. 21, No. 4: 1395-1445.

Population Reference Bureau. 2007. "[World Population Highlights](#)," *Population Bulletin* 62, no. 3.

Ronald Skeldon. 1987. "[Migration and the Population Census in Asia and the Pacific: Issues, Questions and Debate](#)," *International Migration Review*, Special Issue: Measuring International Migration: Theory and Practice. 21, No. 4: 1074-1100.

Yinger, Nancy V. 2007. *The Feminization of Migration: Limits of the Data*. Population Reference Bureau.
(<http://www.prb.org/Publications/Articles/2007/FeminizationofMigrationLimitsofData.aspx>)

Projections Recommended:

Lutz, Sanderson and Scherbov. 1998. Expert-based probabilistic population projections. *Population and Development Review* 24:139-155.

April 2. No class. Good Friday.

Week 12. April 13

Catch up and review

Week 13. April 16

Final presentations in class.

Final exam made available at 4:25pm. Due, Thursday, April 29.